OCTOBER 1959

HORTICULTURE

America's Authentic Garden Magazine

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remind you that now is the time to plant
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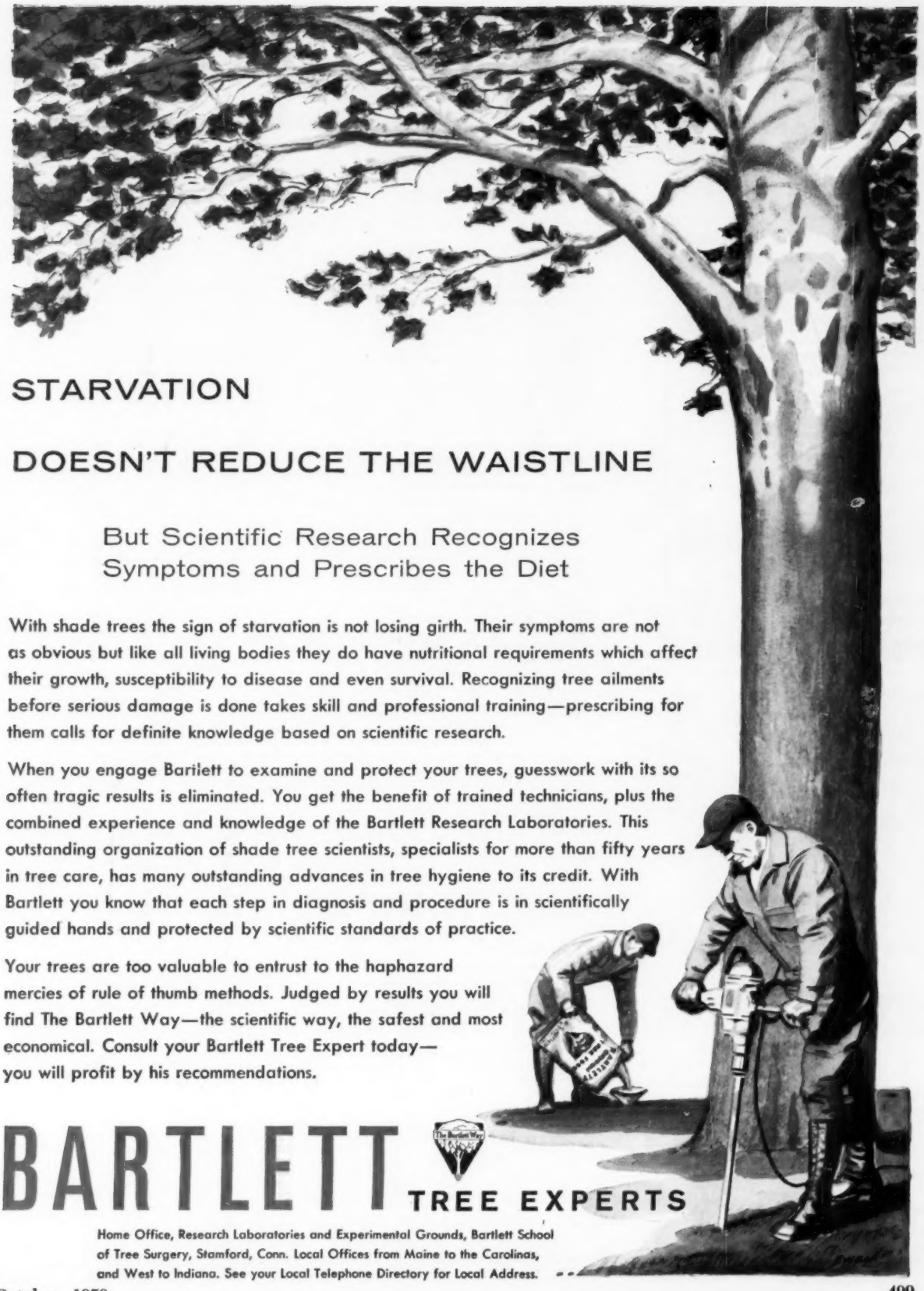

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HORTICULTURE

America's Authentic Garden Magazine

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COMING EVENTS

Sept. 25-26. Portland, Ore. Annual Chrysanthemum Show, National Chrysanthemum Society, Oregon Chapter, Meier & Frank Dept. Store Auditorium

Sept. 29-Oct. 1. West Point, N. Y. Fall Conference, Federated Garden Clubs of New York State, Hotel Thayer

Sept. 30-Oct 2. Monticello, Ill. Conservation School, Garden Club of Illinois, Robert Allerton Park

Oct. 1. Worcester, Mass. Harvest Exhibition, Worcester County Horticultural Society, Horticultural Hall, 30 Elm St.

Oct. 1. Northford, Conn. Annual Meeting, Federated Garden Clubs of Connecticut, Restland Farms

Oct. 3. Stockbridge, Mass., Harvest Festival, Berkshire Garden Center

Oct. 3. Lakeville, Conn. Harvest Festival

Oct. 5-7. Boston, Mass. Flower Show, R. H. Stearns Co., sponsored by Mass. Garden Clubs Federation.

Oct. 5-11. Annapolis, Md. Heritage Week. Tour of Homes & Gardens. Information: Historic Annapolis, 64 State Circle

Oct. 6-7. Peoria, Ill. Semi-Annual Meeting, Garden Club of Ill., Hotel Pere Marquette

Oct. 6-9. Columbus, O. 18th Annual Short Course on Roadside Development, Ohio Roadside Council

Oct. 7-8. Greenwich, Conn. Celebration of "Kiku" Chrysanthemums, Greenwich Garden Club, Green Fingers Garden Club and Hortulus Club, Round Hill Community House

Oct. 7-10. Rochester, N. Y. 14th Annual Congress, American Horticultural Council, Hotel Sheraton

Oct. 10-11. Chevy Chase, Md. Annual Show, National Capitol Orchid Society, Woodward & Lothrop

Oct. 10-11. Tampa, Fla. Annual Show, Florida West Coast Orchid Society, Marine Bank & Trust Co.

Oct. 11-14. Bedford, Pa. Joint Conference, American Forestry Ass. and Pennsylvania Forestry Ass., Bedford Springs Hotel

Oct. 13. Miami, Fla. Course in landscape design, Fairchild Tropical Garden.

Oct. 12-13. Wagoner, Okla. State Nurserymen's Ass. Convention, Western Hill Lodge.

Oct. 13-15. Cheshire, Conn. Flower Show School Course 1, Federated Garden Clubs of Connecticut, Waverly Inn

Oct. 13-14. Charlotte, N. C. Southern Retail Florist Assn. Pre-Christmas Design School and Meeting, Charlotte Coliseum

Oct. 14-17. Fort Lauderdale, Fla. Florida Flower Assn. Convention, Galt Ocean Mile Hotel

Oct. 14-16 Philadelphia, Pa. Course I, Flower Show School, Garden Club Federation of Pennsylvania, Strawbridge & Clothier Auditorium, Market St.

Oct. 14-16. Mt. Vernon, Ill. Course III, Flower Show School, South Central Illinois Flower Show.

Oct. 15-18. Boston, Mass. Harvest & Chrysanthemum Show, Massachusetts Horticultural Hall

Oct. 16-18. Tyler, Tex. Rose Festival.

see page 511

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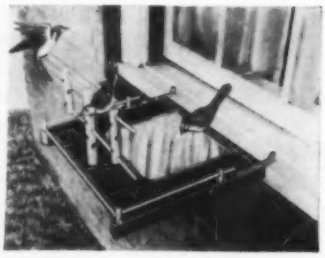

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READERS' *Questions Answered*

Are oak leaves satisfactory for protecting roses during the winter?

In general, leaves are less satisfactory than soil because they hold too much moisture and are colder. If they are used, first mound soil around the base of the plant. Many substitutes for soil have been tried but none so far has proved as satisfactory.

What kind of peatmoss is best?

They are all useful. Peatmoss (partially decayed sphagnum) has little plant food but makes an excellent mulch and reduces weed growth. Peat (decayed sedges) has more plant food and is better for incorporation into the soil. It is easier to handle also. The super-dry peatmoss will absorb moisture faster if a little detergent is used.

I need a perennial vine to provide a dense screen. What one do you suggest?

Dutchman's pipe (*Aristolochia durior*), makes an impervious screen. It has large leaves and inconspicuous flowers. *Ampelopsis brevipedunculata,* the turquoise berry, is easy to grow and produces thick foliage, plentiful berries.

Do all hedges need pruning several times during the summer?

No. Most evergreen hedges such as yew, hemlock or arbor vitae can be kept tidy with one shearing a year. Some of the deciduous plants used in hedges will also require little shearing—barberry, rose of sharon and buckthorn.

What is the origin of the expression "a green thumb"?

We shall have to pass that question on to readers of Horticulture. Does anyone know where and how the expression became a part of our language? No doubt all readers know what it means but when it first appeared in our language would be interesting to know.

Does it make any difference which end of a cutting is inserted in the soil?

Yes, indeed. If you inserted the top of the cutting it would not survive. Normally it is not difficult to distinguish between the top and bottom. However, to be sure, make the bottom cut on a slant and the top cut, if one is required, straight across the stem.

Can I grow Japanese persimmons in New York?

Japanese persimmons are not as hardy as the native *Diospyros virgini-*

see page 505

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These unique trips, combining the famous sights as well as the famous gardens of lands overseas, have grown in popularity every year.

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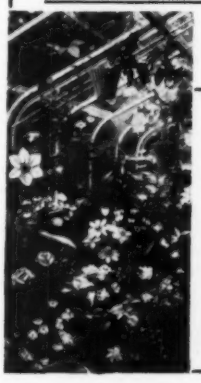

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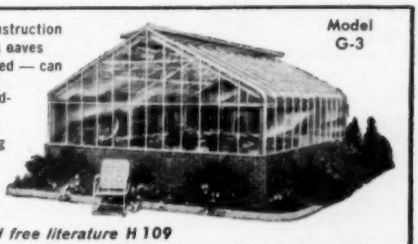

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what's CURRENT

NOW THAT COLD WEATHER is coming, rabbits will turn more and more to woody plants for their food. They are notorious girdlers of trees and shrubs during the cold weather, but that damaging act can be prevented now by using M-S Ringwood Rabbit Repellent which comes in two sizes of aerosols in addition to larger packages. If the directions on the container are followed rabbits won't damage your trees and shrubs this winter.

Tree Protection

The new Burns Tree Guard Kit is useful because it contains all of the material necessary for wrapping and supporting trees to be planted this fall. Proper care taken to see that trees are held upright and are not blown askew by winds or tipped over by ice and snow, will insure quicker healthier growth. You will find in the kit stakes, double crafted paper, sections of hose and guy wire—enough material to hold any tree firmly in place while it is becoming established.

Fiberglass for Greenhouses

Fiberglass Panels, reinforced, tinted and translucent filter the sunlight into greenhouses thereby protecting sun sensitive plants without reducing the amount of light greatly so those that require full sun are not harmed. Much of the infra-red rays are filtered out by using tinted fiberglass panels on the roof of the greenhouse. They are also helpful in reducing breakage of glass by hail stones, limbs, or other objects, thereby reducing the cost of replacement and repair.

Lawn Vacuum Cleaner

MusVac, a gasoline powered vacuum cleaner is ideal for collecting wet or dry leaves, grass clippings, sticks, cigarettes and other debris which accumulates on the lawn in the fall. MusVac is especially useful as a leaf gatherer. It is 31 inches wide, operated by a gasoline motor and has a bag attachment sufficiently large to accumulate a large amount of leaves and debris before dumping is necessary.

Tree Wound Dressing

A new tree wound dressing "Antrol" comes in an economical, small container for the amateur gardener. A newcomer to the garden market, it is so handy that gardeners who have been accustomed to skipping the chore of painting wounds and cuts can now apply a dressing quickly and cleanly. Antrol Tree Wound Dressing is effective on shade, ornamental and fruit trees as well as rhododendrons, mountain laurel and other broadleafed evergreens.

Powered Lawn Edger

Up to 50% of lawn care time is spent in trimming and edging so any easily used, efficient tool that will keep lawn edges trimmed, has an appeal to many home gardeners. The Porter-Cable Model 135 trimmer is designed especially for this purpose. Having a 5" rotating cutter bar protected by an aluminum guard and operated by a ball-bearing motor, the jam-proof clutch stops the blade automatically if some obstacle jams between the guard and blade. This tool enables the gardener to power his entire lawn-care operation.

Weedkiller in Wax

Weedez Wonder Bar is a wax bar impregnated with 2-4D which is pulled across the lawn. A small amount of the chemical is left on the leaves of broadleaved weeds making it an effective way of eradicating dandelions, plantains and other lawn pests. It can be attached to the rear of the rotary power mower so that mowing and weed eradication are carried out in one operation, even used close to flowers and shrubs without danger to them, yet with good control of the weeds.

Light Weight Rockery

Featherock is a light weight lava foam rock which weighs less than 50 pounds per cubic foot. It is ideal for rock garden development because of ease of handling, interesting texture, and its ability to absorb and retain moisture. It comes in various forms and sizes. Also available in veneer cut, it can be used to build a rough faced wall quickly and without great labor. One ton of small sized stones will cover 322 sq. feet, can be laid by two men in a day.

Tree Wound Cover

Tat P.T.A. is a new plastic tree wound dressing which is supposed to protect cuts and wounds in trees and shrubs against wood destroying organisms, boring insects and water. The active ingredients are styrene, acrylonitrile, methacrylic acid and methylheptyl acrylate. Tat P.R.A. produces a plastic, transparent, expandable, water-impervious film over cuts and wounds.

Spot Control of Weeds

A combination of 2-4 D and 2-4-5-T packaged in a squeeze can for easy application is now available as a spot control of isolated clumps of dandelions, plantain and other broad-leaf weeds. Only a squirt is needed for each weed because of the potency of the combination. The package is called "Squeeze 'N Weed", and is effective also against poison ivy if it is young and lush growing.

from page 503

ana, however they will grow on Long Island. Some varieties appear hardier than others. When planting them be sure to plant both a staminate and a pistillate tree, otherwise you can expect little fruit.

Our grape vines grow luxuriantly but have very few grapes. Can you tell me why?

Diagnosis at a distance is not always satisfactory, but from the information you have given, it appears the vines are getting too much nitrogen. If you have fed them heavily in the past, do no more feeding for three or four years. In the winter, cut the vines back heavily. It is customary to cut each long cane back to three buds. This will improve fruiting.

I have some beautiful lantanas. Can I take slips and root them?

Lantanas can be increased by rooting cuttings of half mature new growth. They are however, exacting in requirements. Use clean sharp sand. Apply a root inducing hormone, setting the cuttings half buried. Water thoroughly and cover the flat or pot of cuttings with thin polyethylene or a belljar. Place the cuttings so they will have plenty of light but no sun. Don't water again until the sand surface appears dry. Properly handled, the percentage of rooting should be high.

When do the andromedas blossom?

The Japanese andromeda, *Pieris japonica,* produces drooping panicles of lily-of-the-valley like flowers in April and May. The mountain andromeda of the South has erect panicles of similar flowers. *Leucothoe catesbaei* which is also called andromeda occasionally blooms in May and June. All require an acid soil. The hardiest is the mountain andromeda with leucothoe next.

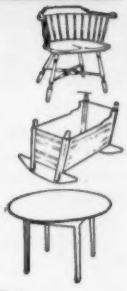
What ivy is best to climb on a house? Ours is of brick painted white.

Probably Boston ivy (*Parthenocissus tricuspidata*) or the more common woodbine or Virginia creeper (*Parthenocissus quinquefolia*) would be the easiest to get established. They cling readily even to white surfaces whose refracted light is too much for English or Baltic ivy. After the deciduous ivy is established on the wall, English ivy can be planted and will successfully climb in its shade.

see page 511

RECENTLY restored by the Preservation Society of Newport County, Rhode Island's famous White Horse Tavern has never closed its doors since they were opened in 1687. Today, Cohasset Colonial chairs and tables are completely at home among the original antique furnishings of this historic inn.

Cohasset Colonial Windsor Side Chairs (kit $16.95)
Photo courtesy White Horse Tavern



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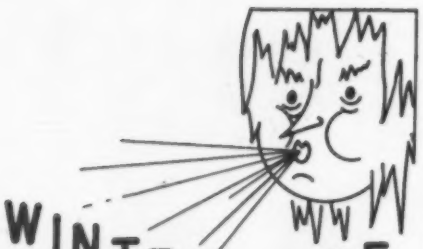

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PREPARE FOR WINTER

SCARS OF WINTER damage live in the memory of home gardeners long after the injured plants have recovered, and the dead ones been replaced. The landscape will be more impressive, and less brown, if a few insurance jobs are attended to in the fall.

Winter damage may be caused by dehydration of the plants, severe freezing of the plant tissues, breakage of plant stems or root destruction by heaving of the soil. Winter damage may occur each year if plants that are happier in warmer or more humid climates are grown. Tender immigrants bring pleasure and beauty to the cooler regions until a severe winter destroys them. Hardiness zones determined by professional observation will guide the uncertain gardener in the selection of plants of questionable durability. The selection of tougher plants will reduce the toll of winter damage in most neighborhoods.

Dehydration, or drying of the exposed parts of the plants was the cause of most damage last winter in New England, the north central and north Atlantic states. Deeply frozen soil, without the relief of the traditional January thaw, prevented the plant roots from replacing water that was removed by stronger than normal winds.

Little snow cover in some areas permitted more wind drying than normal. Some of the more popular plants that were casualties, especially in windy spots, were rhododendron, mountain laurel, azalea, yew, varieties of the American and Japanese holly, hemlock, juniper, chrysanthemum and iris.

Protection can be provided by late autumn deep watering so the plants will be as fresh and turgid as possible before freeze-up time; by mulching the soil with organic, mineral, or plastic mulches to reduce moisture loss near the plant roots; by breaking the force of harsh winds with evergreen branches, plastic sheets, plastic bags, burlap or wooden barriers; by covering the leaves, buds and branches with an anti-transpirant spray to reduce loss of moisture by the plant tissues; by mulching perennials and spring bulb plants with several inches of non-soggy mulching material that will keep both the sun and the wind from reaching the soil from late autumn until early spring.

Plants under the dripline of the eaves will appreciate the installation of gutters. Build sloping wooden winter shelters of boards four to six inches wide, spaced an inch apart, and mounted on four firm posts before the ground freezes. Tie plants with many upright stems firmly with strong, soft cord or wrap them in chicken wire before wet snows pile inside and break branches.

Plants that will appreciate this care are the hatfield and hicks yews, Irish and Greek junipers and arborvitaes. Foundation plants with brittle stems, like rhododendron, should be planted outside the normal dripline of the building. Wide-limbed trees like dogwood and some of the flowering crabapples will suffer less from wet snow or ice storms if their branches are supported with strong cord or light wire—in advance of the storm season.

Fluctuating temperatures which permit the garden soil surface to freeze and thaw frequently while the deep soil remains frozen tight will break or dry shallow-rooted perennials and bulbs.

Protection of the soil and the plants with a thick mulch of non-soggy material, soon after the ground freezes firmly, will check sharp changes in soil temperature. When the garden does not include winter foliaged plants like Madonna lily, Oriental poppy and chrysanthemum, a moisture-holding mulch of peat moss, perlite, vermiculite, buck-

see page 544

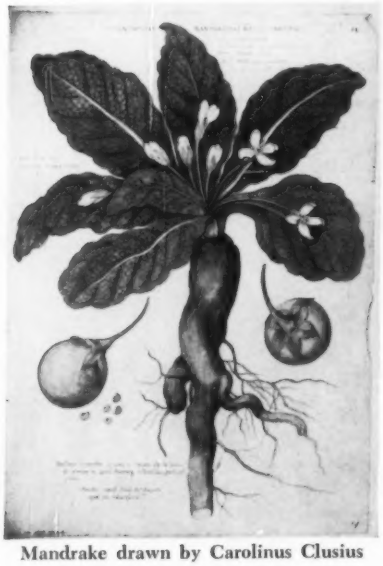
H. VEENDORP, curator, Leyden
Botanical Gardens, Netherlands

the fabled MANDRAKE

OF OLD, man has surrounded many plants with superstition. Such plants were held in great respect because of magic powers they were understood to possess. Some were also considered to be charms, from which medicinal drinks could be prepared or through which good luck could be obtained.

The mythical powers connected with the mandrake are the most striking. Not only is this superstition widespread, but it has also taken root in literature.

The mandrake, (*Mandragora*) is indigenous in the countries around the Mediterranean. The mandrake of Genesis XXX is *M. officinarum*. Its white or bluish flowers open in April. Those of *M. autumnalis* are violet and are born in corymbs. Belonging to the potato family, the fleshy root divides two or three times. Its large oval leaves form a dense rosette. The fruit, a berry that looks like an apple, gives off an intoxicating scent.



Mandrake drawn by Carolinus Clusius

Surgeons of antiquity used the plant for its soothing qualities. According to Diocorides eating or smelling the berries induces sleep. From the roots a beverage was prepared for people about to endure an operation or whose wounds were to be cauterized. Drunk in larger quantities, it was supposed to be fatal.

The larger spring flowering kind has a white tuber-like root, while that of the smaller one is black. The poisonous matter in its sap is mainly hyoscyamine and hyoscine, found also in the tap root.

Mandrake roots often divide into two "legs". Human imagination acts readily; so, in times gone by the close resemblance of the roots to human shape was observed. That similarity in form and the active powers of the sap provided fertile grounds for legends. In the sixth century B.C. Pythagoras called it a plant altered into a human being.

According to the old tales, herbalists of the past attemped the uprooting of the plants by mythical and magic powers. During the first centuries of our era, touching the plant while uprooting it was believed to be fatal. So people developed ingenious ways of unearthing it. They often tied a hungry dog to the upper part of the root, and then lured the dog toward them with a small piece of meat. Jumping at the juicy morsel, the creature would pull the root.

There is a wealth of legend surrounding the mandrake. Frontinus reported that the Carthaginian general Marhabel successfully used the sleep inducing effect of the mandrake in a battle with an African army. He had his troops flee in mock terror before the advancing army, leaving behind large quantities of mandrake wine. The unsuspecting Africans celebrated their victory, and fell into a deep, drunken slumber. It was then a simple matter for Marhabel's legions to return and slaughter their opponents.

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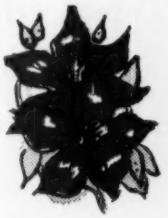
Plant Clematis Now



Clematis is a beautiful flowering vine to use on lamp posts, trellises, over doorways, and on fences. It is extremely easy to grow and requires a minimum of care. They may also be grown in large clay pots or wooden tubs and make a fine display on a terrace if a support is provided for the tops.

Where Should Clematis Be Planted?
The vines like 5 to 6 hours of sun daily.

Does Clematis Require Special Soil?
A rich well-drained soil is best. If soil is heavy clay, dig a large hole, fill bottom with stones or cinders and then fill with rich light soil. If soil is acid, a couple handfuls of lime should be worked into the soil once each spring and fall.

What Time Of Year Should Clematis Be Planted?
Plant either in early fall or early spring. Fall planting usually insures an earlier growing start in spring.

When Do The Vines Bloom?
Varieties may be had to provide bloom from June until September.

What Colors Are Available?
Colors include white and many shades of pink, red, blue, and purple.

Can Clematis Be Grown Indoors As A House Plant?
Yes, if you have a good sunny window where the temperature is about 70°.

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ISABEL ZUCKER, Detroit, Mich.

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CLEMATIS IN FALL

ANYONE WHO EVER has seen clematis growing in the greenhouse of a specialist in this flower and seen the tender, loving care given each slender, young plant as it winds its way on twine towards the roof, should realize that some of this same t. l. c. will not be amiss when the young plant is his to grow.

For clematis plants will not thrive in the garden unless some thought is given to their requirements. These come under the headings of: placement, soil mixture, planting depth and support.

Clematis, in general, need a sunny situation, though many will grow in very light shade. But, and it's a big but, all like their roots shaded. Some folks plant a low-growing shrub or wide-growing perennial close to each clematis to furnish that shade. Others use the simple trick of pulling the vine (after planting) upward through the hole in an inverted flower pot. The pot, set on the ground, then shades the roots.

Good drainage is essential to most clematis, though there are exceptions. *Clematis crispa* will thrive in moist soil and so will a few other species.

Soil for clematis should be a neutral or alkaline sandy loam with plenty of organic matter added. Assuming your soil is sandy, use ⅓ topsoil, ⅓ compost and ⅓ dampened granulated peat moss. If your soil is clay, use ⅓ topsoil, ⅓ dampened granulated peat moss and ⅓ sand. In either case add a spadeful of ground limestone (more if your soil is highly acid) and a handful of superphosphate to each bushel of soil.

The topsoil in the mixture may come from the hole you dig for the plant. If you want your plant to thrive, that hole will be 18 inches deep and a foot across. If drainage is a problem, put three to four inches of gravel in the bottom of the hole. Set the plant so its long roots are straight down and the crown, which is where tops meet roots, is two to three inches below the soil surface.

Unless you are planting the clematis next to a fence or similar support, provide some object to which the plant may cling at the time you set the plant out. Otherwise, before you know it next spring, the clematis will be up and clambering on anything it can reach. The stems are so brittle that they'll break when you attempt to retrain them.

Once carefully planted, and fall is the best planting time, the clematis should be well watered. If rains come, as they do normally, the only further care needed is to mulch the plant with soil or sand to a depth of four inches.

While most clematis need such a mulch only for the first winter, those which flower on year-old wood (*C. patens* and Florida types) need such a mulch every winter. A severe freeze will cut down the tops of these clematis and there'll be no flower crop for a year.

Clematis which bloom on wood of the current year (*C. lanuginosa, Jackmani* and *viticella*) can have tops killed to the ground and still will survive. However, plants of all types will profit by a yearly mulch of dried manure.

All this tender, loving and essential care will be repaid in full when your plant covers itself, in due season, with its myriad flowers. ::

Clematis Nelly Moser

LETTERS to the Editor

Mysterious Dots

Dear Editor—What are those mysterious dots in fours which appear here and there in your articles?

GORDON MORGAN
Dallas, Texas

The dots in fours are double colons (::) and they mean that the article is finished, at an end, finis. Ed.

Hardiness of Perennials

Dear Editor—You mention in the July article on perennials that astilbes and bergenia are not reliably hardy north of Philadelphia, Pa. But they are listed by reliable nurseries as hardy in Spokane, Wash., and Lewiston, Idaho, and I have grown them here. I very much doubt if there are any areas north of Philadelphia where these plants would be unable to survive the cold. The hardiness of plants is, I think, something about which one can be always learning.

For instance, it might be difficult to believe that *Magnolia glauca* and camellia could be grown here without protection. I have seen an account of these plants grown at Peace Park in Montana.

ARTHUR E. THATCHER
Bar Harbor, Me.

By "not reliably hardy north of Philadelphia" we do not mean to blanket every climate pocket in the north nor every season—but suggest that the reader check hardiness of the plant described in his area, if it is north of Philadelphia. Ed.

Tree Peonies in California

Dear Editor—I have just finished reading the article, Look of Garden Luxury, on tree peonies in your August issue. I enjoyed the information and color work, but could not rest without correcting one statement. We have grown tree peonies in California since 1927. You mention that they do poorly in California and Florida because of the need for a dormant period.

We agree for southern California and possibly Florida, but not for the area north of Bakersfield and away from the mild coastal areas of California. We are located in Hayward on San Francisco Bay. Also in our area the tree peonies have done better in the heavier soils more suited to roses than in sandy loam.

TOICHI DOMOTO
Hayward, Calif.

It was felt that in association with Florida and in the context of the sentence, it would be clear that the reference was to only the very mild sections of California. Ed.

Four-o'clocks as Perennials

Dear Editor—"See those four o'clocks," my friend said, "they come up every year."

What she meant was that after blossoming, they seed themselves. What she didn't know was that four-o'clocks like dahlias, can be dug up in the fall to be stored in a cool place over the winter. When the soil warms up in the spring they can be replanted. By this method each clump will get larger and larger each year.

The four-o'clock also known as marvel-of-Peru, is botanically *Mirabilis jalapa*, being a perennial in its native South America. In the southern states it is often grown as a perennial but in the north it is most often treated as an annual since it blooms the same season from seed. Doing best in partial shade, it is available in white and yellow but the old fashioned red contains the most citral, the compound that gives it the pleasing lemon fragrance.

MRS. HELEN GUZELIS
Woodhaven, N. Y.

Grain of Salt

Dear Editor—I've been raising dahlias for a long time and I've had reasonable success but some of the recommendations for dahlia growing I see to-day remind me of something I saw in the American Dahlia Society Bulletin. It said, "There is expected to be a salt shortage soon due to the fact that so many dahlia stories now have to be taken with a grain of salt." Yours is the only magazine I haven't seen them in.

PAUL SHORTS
Madison, Wis.

Thanks! Ed. ::

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Books reviewed on this page may be ordered from Horticulture's Book Dept., 300 Mass. Avenue, Boston 15, Mass.

All About Crabapples

FLOWERING CRABAPPLES *by Arie den Boer. American Association of Nurserymen, Washington 5, D. C. 226 pp. $4.95.*

The whole story about crabapples is told and told effectively by Mr. den Boer, of Des Moines, Ia., who is the top authority on crabapples in this country. The hundreds of sketches by the author simplify identification and make more understandable discussion of such matters as budding. Culture, pruning, propagation, pest control and landscaping uses all are covered. Hundreds of species and varieties are listed and described. A real contribution to gardening has been made by Mr. den Boer and the Association of Nurserymen by the publication of this book.

Most Mushrooms are Safe

COMMON EDIBLE MUSHROOMS *by Clyde M. Christensen. Charles T. Branford Co., Newton, Mass. 124 pp. $3.50.*

The beginner, not the mycologist, is the target of this book's message. Mr. Christensen, an assistant professor of plant pathology at the University of Minnesota, points out that "any discerning person should be able to gather and eat these (mushrooms) as safely as he gathers and eats blueberries or wild strawberries." The book describes only 50 or so of the hundreds of fungi, selecting these for their ease of recognition and common occurrence throughout the country. Most are edible, but some poisonous ones which resemble edible species are also described, for safety's sake. The book contains four color plates, two diagrams and 62 black and white illustrations. The final section deals with mushroom cookery. This is the third printing of the book, the earlier editions being by University of Minnesota Press.

THE MUSHROOM HUNTER'S FIELD GUIDE *by Alexander H. Smith. University of Michigan Press, Ann Arbor, Mich. 197 pp. $4.95.*

The writer, a professor of botany and curator of mushrooms at the University of Michigan, explains his reason for writing the guide was "to give mushroom hunters better protection against serious mistakes" by supplying large clear photographs and simple descriptions of the most common edible and poisonous species. The hundreds of photographs with which the book is illustrated fulfill his purpose. The text is also clearly descriptive. The photographs are artistically taken and are utilized effectively. There are 124 species illustrated and described. Many are shown in more than one picture, helping the reader recognize them in all their phases and variations.

Lawn Care

YOUR LAWN, HOW TO MAKE IT AND KEEP IT *by R. Milton Carleton. Van Nostrand, Princeton, N. J. 176 pp. $3.95.*

A no-nonsense attitude toward grass and lawn building distinguishes this book and makes it a valuable weapon for the new homeowner or lawn builder. It's a rare volume on the subject that isn't packed with misinformation or dodges on controversial questions. This book is practical, plain spoken and up-to-date in a fast changing field. Something lacking, though, is a section on watering and watering equipment. P.C.

Miniature Trees

HANDBOOK ON DWARFED POTTED TREES *edited by Kan Yashiroda and Paul F. Frese. Brooklyn Botanic Garden, Brooklyn 25, N. Y. 96 pp. $1.*

The art and science of Japanese bonsai (dwarfing of trees in pots and shaping them) is thoroughly presented in the 16 articles, mostly written by top Japanese specialists, included in the handbook. It is further enriched by 117 halftones and line cuts.

Royal Gardens

THE GARDENS IN THE ROYAL PARK AT WINDSOR *by Lanning Roper. Doubleday & Co., Garden City, N. Y. 128 pp. $10.*

This large format book introduces the American reader to one of England's great royal parks. With 32 color plates and an equal number in black and white, author Roper's excellent description is given added strength. The book is of particular interest to those concerned with British gardening, the traveler and the landscape architect.

The Many Succulents

SUCCULENT PLANTS OTHER THAN CACTI *by A. Bertrand. Philosophical Library, New York 16, N. Y. 120 pp. $6.*

How-to-grow and how-to-propagate as well as how-to-recognize are the principal subjects covered in this book. The last section, a very complex one in the succulent field, is given a valuable assist by illustrations showing 25 species in color and 42 in black and white.

Full Vegetable Story

RAISING VEGETABLES *by G. W. Ware and J. P. McCollum. Interstate Publishers, Danville, Ill. 460 pp. $6.50.*

Here is as complete a book on vegetables as the reader could want. Though directed primarily to the grower for the market, the book has much to offer the amateur as well. It is a revision of an earlier work.

A Look at Pot Plants

100 INDOOR PLANTS *by A. C. Muller-Idzerda. Emerson Books, New York, N. Y. 114 pp. $2.95.*

Originally written for European readership, the book is, nonetheless, useful for the 100 house plants discussed and illustrated. ::

Coming Events

from page 501

Oct. 16. Denver, Colo. Rocky Mountain Regional Meeting, Council of State Garden Clubs

Oct. 17-18. Jacksonville, Fla. Annual Orchid Show, Jacksonville Orchid Society, American National Bank

Oct. 18. Dallas, Tex. Neff Bros. Design School, Sheraton Hotel

Oct. 18-20. Albuquerque, N. M. Fall Board Meeting, National Council of State Garden Clubs

Oct. 19-23. Philadelphia, Pa. Exhibition on Propagation Methods and Procedures, Horticulture Dept., Ambler Junior College of Temple University, Pennsylvania Horticultural Society building.

Oct. 21. New York, N. Y. Flower & Rose Festival, Horticultural Society of N. Y. Essex House Ballroom, 157 W. 58th St.

Oct. 21-23. Detroit, Mich. Lecture, Creative Flower Arrangements and The Fine Arts by Mrs. Anson Howe Smith, Detroit Garden Center, Institute of Arts.

Oct. 21-23. French Lick, Ind. Meeting National Agricultural Chemicals Ass., Sheraton Hotel

Oct. 22. Dayton, O. Meeting and Lecture Dayton Chapter Ikebana International, Patterson Memorial Center, S. Brown St.

Oct. 22-24. Salina, Kan. Annual Convention, Kansas Associated Garden Clubs, Lamer Hotel

Oct. 22-25. St. Louis, Mo. Mid-America Orchid Show and Congress. Missouri Orchid Society, Community Federal Savings & Loan Ass.

Oct. 23-24. Pennsauken, N. J. Annual Show, Chrysanthemum Society of South Jersey, Vocational School

Oct. 23-25. Honolulu, Hawaii. 2nd Hawaiian Orchid Congress. Nine orchid societies on Oahu. Honolulu Academy of Arts, 900 South Beretavia St.

Oct. 24-25. Pittsburgh, Pa. Annual Chrysanthemum Show, Chrysanthemum Society of Pittsburgh, Garden Center

Oct. 27-29. Miami, Fla. Annual Meeting, Florida State Horticultural Society, Everglades Hotel

Oct. 28. Washington Crossing, Pa. Silver Anniversary Luncheon, Bowman's Hill State Wild Flower Preserve

Oct. 30-Nov. 1. Cleveland, O. Annual Show and Meeting, National Chrysanthemum Society, Ballroom, Carter Hotel

Oct. 30-Nov. 8. Melbourne, Australia. 1st Australian Iris Convention, Australian Iris Society.

Oct. 31-Nov. 6. Washington, D. C. Fall Show, Potomac Chrysanthemum Society, Patio Administration Bldg., U.S.D.A.

Nov. 6-8. Swarthmore, Pa. Chrysanthemum Show, Pennsylvania Horticultural Society, Swarthmore College

Nov. 6-8. Houston, Tex. Fall Show, Houston Orchid Society in conjunction with A. O. S. Meeting, Rice Hotel

Nov. 7-8. Ft. Lauderdale, Fla. Orchid Show, Ft. Lauderdale Orchid Society, War Memorial Auditorium

Nov. 10. Minneapolis, Minn. Meeting and Election of Officers, Minnesota State Horticultural Society, Curtis Hall ::

Reader's Questions

from page 505

I want to soak some tin cans in water to get iron to correct iron deficiency in the soil. How long must I soak them?

That is going after iron the hard way. Instead, buy some iron chelates and follow the directions on the container to correct iron deficiency.

Our black walnut trees lost all of their leaves in August. Some kind of caterpillar appeared on the trunk in great masses. Is there any connection.

Since the caterpillars appeared in masses on the trunk, they were likely the black walnut caterpillar (*Datana integerrima*). This pest feeds on the leaves in groups. During the period of growth, the caterpillars move down to the trunk to shed their skins. At this time it is easy to dispose of them. In any case, if the tree is sprayed with arsenate of lead plus a sticker in late June, they will be eradicated.

Where and when should Rhododendrons be planted?

Most rhododendrons like high shade that gives them a little sun. They do better also if they are protected from strong winds. They may be planted in early September or early spring. Plant them with their roots covered with not more than one inch of acid soil. They are surface rooted plants that are more often killed by deep planting than any other one thing.

I have only one holly bush. It is called the Burford holly and it is full of berries every year but they do not color up well. Can you tell me why?

Burford holly has the ability to set a heavy crop of berries without pollination, one of the few that do this freely. However the berries would have far better color if pollinated. Use the species, *I. cornuta* as a pollinator.

Are corncobs any good as a mulch? I can get all I want.

Corncobs make an excellent mulch because they permit air circulation and water penetration yet keep weeds down. Corncobs are more useful if coarsely ground.

Should trees be fertilized at this time of year?

Yes. Now that top growth has ended for this year, it is safe to start fertilizing. The roots will continue to function for weeks unless a deep freeze occurs. Both evergreen and deciduous trees and shrubs will be benefited by fall feeding. ::

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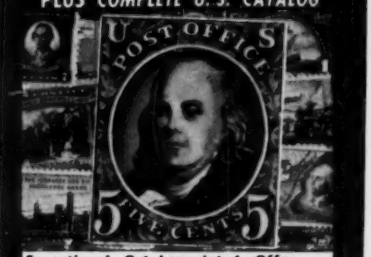

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SUGAR MAPLE lends its golden majesty to the autumn scene

Dr. Donald Wyman, Arnold Arboretum

new finds among small

MAPLES BRIGHTEN AUTUMN

Most American gardeners are fortunately familiar with the tall growing maples that are native to North America, and they look forward to seeing these trees resplendent in their autumn foliage each fall. The sugar, red, goosefoot or striped maple, and several species from the Pacific coast, are among the best of all trees for fall display. Most of those from Europe, like the sycamore maple and the hedge maple, don't have outstanding fall color, but they are planted regardless, for they make excellent shade trees. The Norway maple is one of the European maples with yellow autumn color.

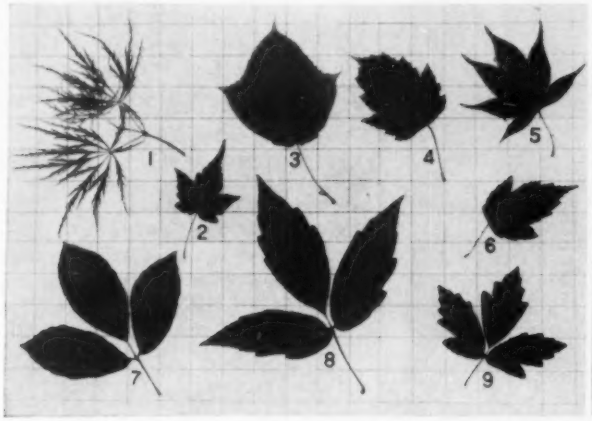
There is, however, a group of small maples from the Orient which could warrant much more planting—trees that seldom grow more than 36-40 feet tall, some considerably lower. These are the trees for the small city or suburban place, excellent for shade and just as good as their American relatives for brilliant fall color. Unfortunately, all are not easily obtainable, but the majority are listed as available in the latest issue of the Plant Buyer's Guide (Massachusetts Horticultural Society, Boston, Mass., $15). They are all hardy in the Arnold Arboretum where specimens are growing.

The most interesting in the winter would be the paperbark maple (*Acer griseum*) from China, which has exfoliating brown, paper-like bark, reminding of our native river birch. The small leaves are compound with three leaflets and turn red in the fall. The oldest tree in America, growing in the Arnold Arboretum since 1907, is only 25 feet tall. It's difficult to find commercial sources for this interesting tree because it doesn't propagate easily, though several U.S. nurseries offer it.

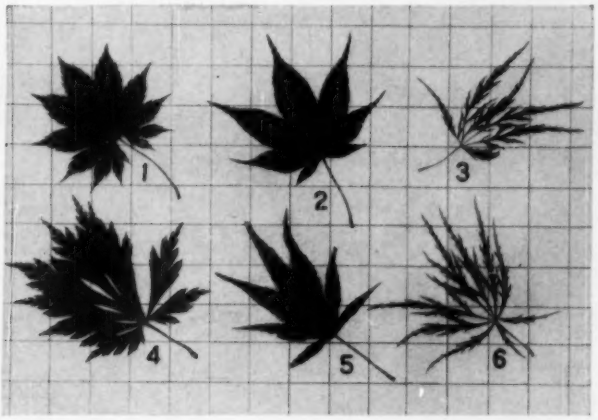
Another three-leaflet maple is the Nikko maple (*A. nikoense*) the tallest of those to be mentioned here, growing 36-40 feet high at maturity. Its autumn color is a striking rose red to purple. Even more important is its vase shaped habit at maturity, one of the few maples to have this important character. It doesn't grow tall enough to replace the stately elm, but as a small edition it does all right. Small trees are oval in shape, very dense, with no main trunk, but with many slender leaders developing at the base.

Two maples have striped bark on small branches, *A. rufinerve* and *A. capillipes*. The former is somewhat similar in habit and size of leaves to our native moosewood or striped maple of the northeastern United States, but the leaves frequently turn crimson to orange in the fall, making such a display of fall color that it's impossible to overlook. The other striped bark maple (*A. capillipes*) has deep red fall color, and even in the spring, the small, unfolding leaves are bright red, soon turning to green. Neither of these trees grows much over 30 feet tall.

see page 541



Shown above in numerical order are: *Acer palmatum dissectum, A. tschonoski, rufinerve, tataricum, palmatum sanguineum, ginnala, nikoense, triflorum* and *griseum*. Photo is over inch squares



Shown above in numercal order are: *Acer japonicum, A. palmatum sanguineum, palmatum ornatum, japonicum aconitifolium, palmatum laciniatum* and *palmatum dissectum* (in scale)

HELENE FLEGG, Toronto, Canada

here's a fragant calendar

FOR THE GREENHOUSE YEAR

Part II

CONTINUING our greenhouse calendar, started last month—December is the most difficult month in which to have fragrance. There is a white form of heliotrope, New Snow, that smells like violets and usually has at least one small cyme of flowers. You will need to bury your nose in it to catch the perfume, so place it well in front.

Occasionally the citrus plants, lemon, lime or orange will produce a few flowers in late December or early January if it's been exceptionally sunny. A small plant of a scented leaf geranium grown from a cutting in the summer will supply enough leaves for pinching. The lime scented variety is particularly satisfying. Early in December bring in the first pots of white hyacinths for Christmas and yellow narcissus for a gay, early January show.

The brilliant poster colors of cineraria will start in January and at no time are they more welcome. You can depend on getting several good blues from a package of seed to contrast with the yellow of the daffodils. By starting seed in April and keeping them growing as cool as possible, you can have them in flower from January until late March. If kept in four-inch pots the plants stay on the small side. Aphids aren't so troublesome, either, in the cooler months.

By the end of the first week of January the daffodils from pre-cooled bulbs will be in flower and three or four pots will give the appearance of a houseful of color. Except that there is no gentle breeze to give them movement, daffodils are much more lovely grown inside than out; no mud-splashed trumpets and they last for nearly three weeks! How often have you been disappointed by an unexpected hot spell just when the narcissus are coming into flower outdoors so that before you get around to enjoying them they are faded!

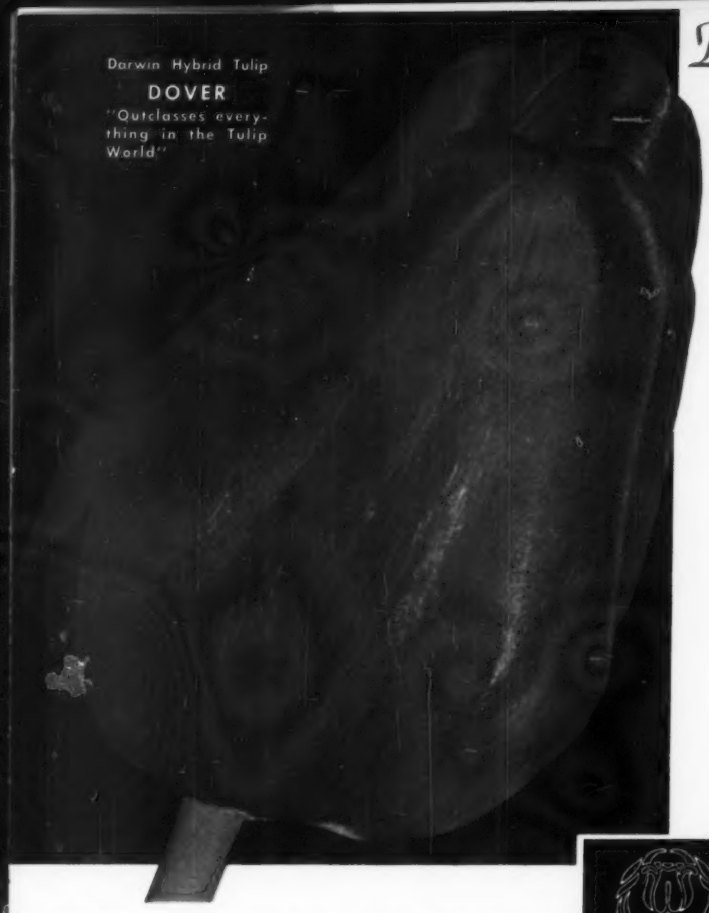
The months of February and March are filled with tulips, narcissus, hyacinths and muscari which is a rather dull little thing outside but lovely inside. During these months the greenhouse is redolent with fragrance, many tulips are scented, narcissus and hyacinths fill the air with sweetness and a pot of lily of the valley smells as delightful as it looks. Add to this list *Iris reticulata* for the fragrance of violets and of course freesia for the most enchanting of all perfumes.

In April the geraniums come into their own. During the winter months they have quietly grown into strong, healthy plants from cuttings taken in late summer. And suddenly, one morning the greenhouse is joyously bedecked with pink, rose and red. Dripping from the shelves, ivy geraniums are smothered in color. This is indeed the gayest month of all. Fragrance from several pots of lilies fills the air and spring is really here—the bees have returned! The lilies too, have been unobtrusively growing by the glass. Pot the bulbs in September or October and grow as slowly as possible for success.

Late April and May brings fuchsias to the front. They too, have been making slow growth behind the wall of flowers. Now, with some shade on the glass, the dainty blossoms hang prettily against good green foliage and the picture is restful after the over-abundance of color outdoors. The rex begonias are leafing out, too, their muted foliage contrasting softly with the green masses of fuchsia. Perfume from a *Hoya carnosa* trained up in a corner adds the perfect note of contentment.

Tulips, daffodils, amaryllis and other bulbous plants brighten the winter greenhouse

see page 540



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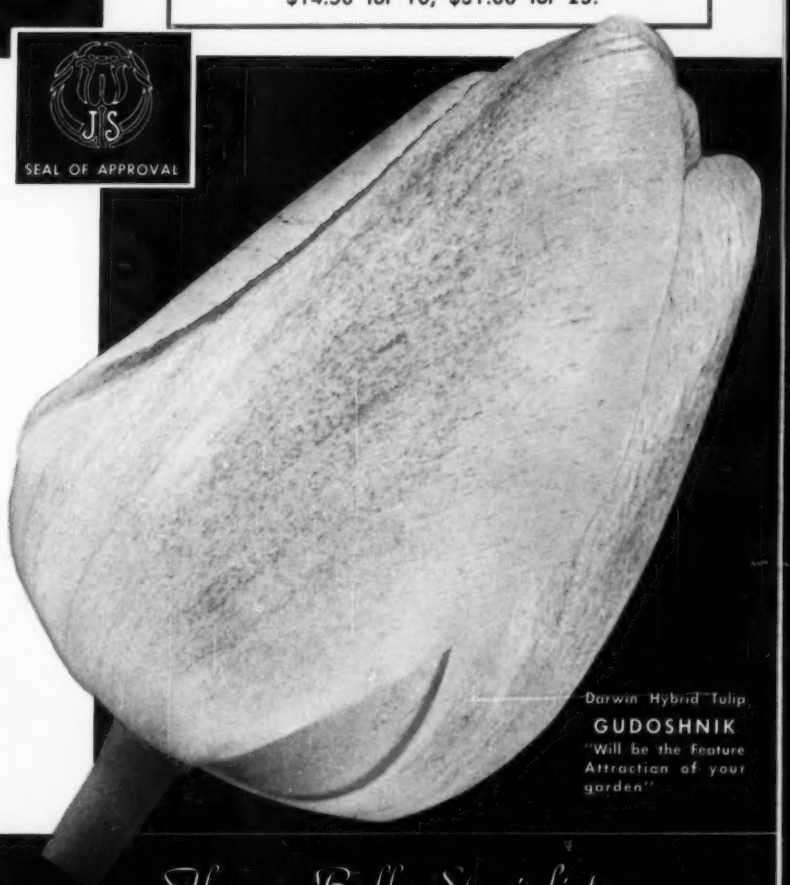

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KATHERINE M-P CLOUD, Ardmore, Pa.

fall color from

GAY BERRIES

GARDENERS LIVE in the future, as the old saying goes—and fall is an ideal time to plan and plant for that future. There is more leisure now to take account of the successes and disappointments of the waning season, and to work toward a more beautiful garden next year. In this connection shrubs and vines that are conspicuous for their bright berries, add an enormous amount of interest and pleasure to the planting. Many woody ornamentals stage a pageant of brilliant color as the dormant period approaches; in fact in various instances the fruits persist on the branches throughout the winter.

One of the most spectacular berried shrubs is firethorn (*Pyracantha*). It thrives in soil of average fertility, and requires full sun for maximum fruiting. Since it transplants with difficulty it is preferable to purchase young plants. It is splendid for espalier, informal hedges, for training along fences and for softening the corners of the house. In the South pyracantha is evergreen, and nearly so as far north as Philadelphia. The hardiest species, *P. coccinea,* has bright red berries which stud the branches and last well into the winter. *P. c. lalandi* is a slightly hardier form, while its abundant bright orange-red berries can't be surpassed

The following species are adapted to mild climates. *P. angustifolia* is narrow-leaved, and has slender, sometimes prostrate branches, and orange to brick-red berries. Reaching a height of 12 feet, it is desirable for training on walls, fences and around windows and doorways. The Chinese species *P. atalantioides* (*P. discolor*) can be depended upon to retain its brilliant red berries over an extended period.

Another tall-growing firethorn, *P. crenulata,* develops into a showy specimen about 20 feet high. Its highly decorative orange-red fruits appear in profusion. The var. *flava* is a yellow-fruited form. A small-leaved, lower growing type, var. *rogersiana,* is thought to be slightly hardier. The orange-red berries of *P. crenato-serrata (gibbsi)* persist on the branches all winter. A more vigorous variety producing myriads of berries is *yunnanensis.* Other worthwhile forms of this species are *macrocarpa, prostrata* and *graberi. P. koidzumi* (*P. formosana*) is valued because of its attractive habit of growth, and for its highly ornamental, generous crop of red berries. In southern gardens it makes an excellent specimen plant.

Lovers of red berries will also find many opportunities for introducing sparkling fall color by planting barberries, cotoneasters, skimmia, nandina and hollies. Among the barberries, the well known Japanese barberry is heavily loaded with red berries which last throughout the winter. There are numerous species of this shrub from which to make a selection, many being hardy.

For shady locations *Skimmia japonica* is a choice, low-growing shrublet with effective spikes of red berries. In common with hollies a male plant must be included in the planting to assure berry production. However, this is not necessary with *S. reevesiana* whose flowers are perfect. The fruit of this species is dark red, and the plant is lower-growing than *S. japonica.* The hollies are known to all for the outstanding beauty of their berries. Burford holly (*Ilex cornuta burfordi*) is a broadly-spreading shrub of unusual appeal. It is valuable for use where planting space is limited, because of its ability to produce berries without a male plant. Various viburnums also contribute richly to the autumn effect.

Among the many shrubs that bear blue, black and blue-black berries, a notable example is Regel's privet (*Ligustrum obtusifolium regelianum*). The branches are covered with blue-black berries, which persist until the new leaves unfold in spring. *Mahonia bealei* with its large clusters of blue berries gives a dominant note. *M. aquifolium* is less coarse-textured with beautiful blue berries.

Pink-fruited shrubs always add interest, such as *Euonymus europaeus aldenhamensis* and *Euonymus nanus.* The white berries of snowberry (*Symphoricarpos albus*) stand out dramatically against an evergreen background. It is a charming, light-growing shrub adapted to partly shady locations.

Berried vines play their part in the autumn landscape. These carry the color scheme over arbors, trellises and along fences; they also give a mellow touch to bleak walls. Foremost among these is porcelain ampelopsis (*Ampelopsis brevipedunculata*), an enchanting vine with lilac berries that change to bright blue. *Euonymus fortunei vegetus,* although not actually a vine, can be trained over a support and will climb approximately five feet. Its handsome evergreen foliage makes an excellent foil for the striking orange-red berries.

Matrimony vine (*Lycium chinense*) produces a wealth of bright red berries; its slender, long branches can be trained on a fence or wall. Bittersweet (*Solanum dulcamara*) is another red-berried shrubby vine for covering fences, and tree stumps. It is suitable for naturalistic gardens. (However, the berries are poisonous.) The species of *Celastrus* with their yellow and red fruits take their place in the parade of fall gaiety, provided a male plant is included to assure fruiting. ::

← *Pyracantha coccinea*

THOMAS L. HOSMER, Vista, Calif.

suburbia demands FENCING LESSONS

ONCE UPON A TIME "don't fence me in" was the personal plea of most American householders, but with the advent of the suburb with its small, cheek-by-jowl lots, the demands of privacy have made the garden fence as important as the walls of the house.

Instead of being a restrictive thing, the fence has become a means of freeing the home owner from the pressures of the neighborhood and of keeping the neighbor's landscaping or lack of it from spoiling his own.

In this day of speeding automobiles, too, parents or pet owners welcome the protection of their youngsters or animal friends from the dangers of streets and highways. At the same time, fences will keep youngsters and their pets out of the garden.

Then, too, fences may be used for landscape background or to emphasize plant materials or leaf textures. Partial fencing can be integrated into the landscape plan, blocking out an unwelcome view of garbage cans, backdropping a perennial border or a favorite shrub or enclosing a patio area where outdoor living and entertaining are a feature of family life.

Fences are sometimes used as baffles to break wind or direct cooling breezes. They can be used to shade a section of the garden where shade loving plants are grown or where the demands of outdoor living make it desirable. Fences for light control may be either of solid or broken material, with partial shade and an in-

In the upper photo, a post and rail fence adds to beauty of house and grounds, at the same time lends support to a climbing rose. Below a cedar screen fence supplies privacy for the patio, screens an eyesore from view

teresting pattern of light provided by latticework.

Fencing probably does more for outdoor living in the suburbs than anything else. Without a hedge or fence, patio entertaining becomes a neighborhood operation in most sections. But the patio really comes into its own when it is an enclosed outdoor livingroom.

In this respect American landscaping is coming to accept a rule of privacy that long has been part of the Spanish and southern European garden. In the days of large gardens there was no need for enclosing the garden. But in today's suburban garden, a fence can create garden individuality.

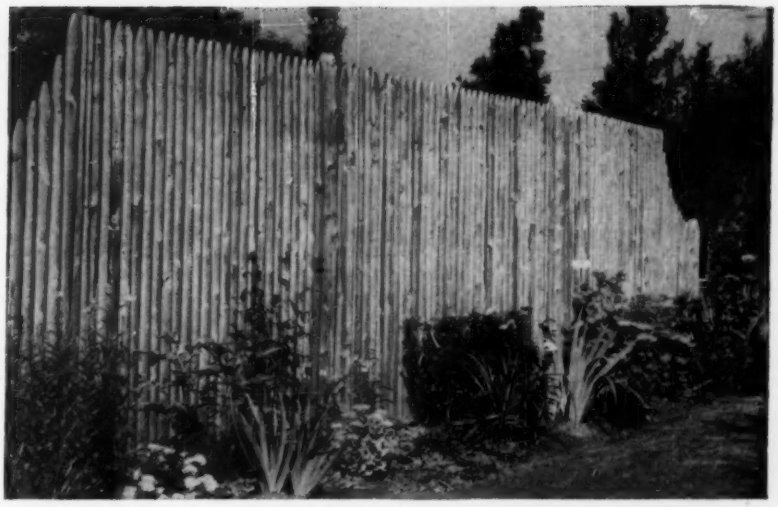
Finally, fences play an important role in beautification of the home and should be selected with careful consideration not only for their effect on the plantings and landscape but for their integration with the architecture and style of the house.

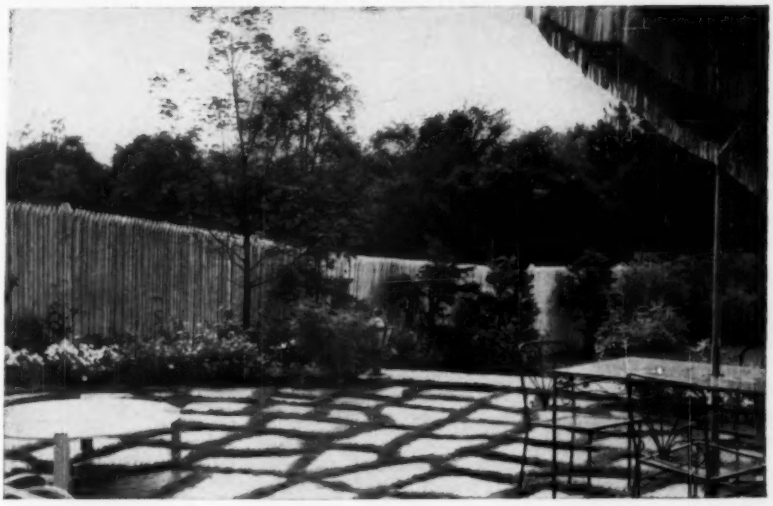
Fencing dealers have a wide selection of fencing and screening material to choose from, everything from lattice screen, picket, basket weave and upright redwood grape stake (popular in the West) or cedar pickets (in the East) to post and rail and hurdle fencing.

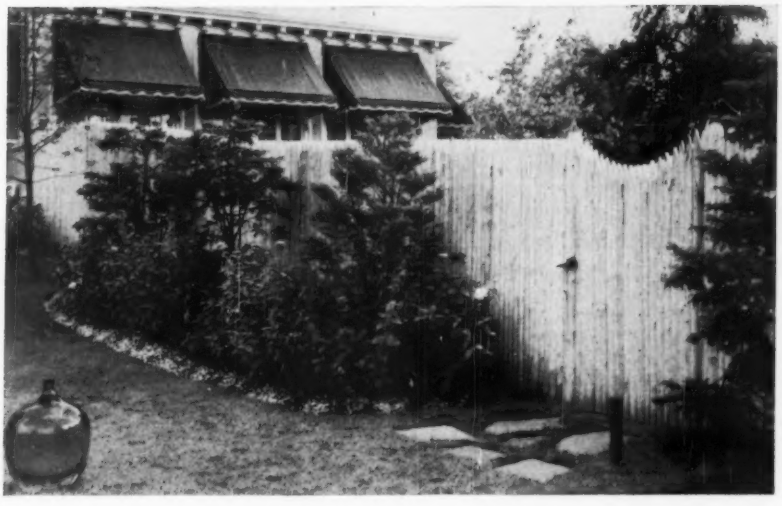
Most of these can be purchased in ready-to-put-up rolls or simple do-it-yourself packages. Or you can arrange with most fencing manufacturers to have a custom-built job made specially for your garden's needs.

Be sure to treat your fence properly before you install it. This can add many years to its life and reduce maintenance expenses. And carefully follow the manufacturer's directions in putting it up.

Then, having learned these fencing lessons, you'll enjoy greater beauty and greater freedom with the privacy of your fence. ::







Fence at top screens the service area of the neighboring yard, at the same time supplies just the right texture for the perennial border background. Middle fence makes a real outdoor livingroom of the patio and gardens. Fence at left demonstrates the effective landscaping which can be achieved with shrubs and cedar screen fence

NOW... is the time!

AFTER ENJOYING the brilliant color display of October, it's not pleasant to be reminded that there are gardening chores to be done before winter's arrival. But there'll be more time now than in the spring. Some jobs can't be put off. Those should be first on the list of chores.

Get Bulbs In

The last of the spring bulbs should have arrived by now and should be snugly placed at the proper depth in soil that is well drained and supplied with adequate plant food. Tulip planting can be delayed until the end of the month but the smaller bulbs and daffodils are happier for early October planting. Get them in the ground.

Enjoy Fall Foliage

Frost has hit the north country and foliage is at its best. New England, despite its reputation for glorious color is not the only section of the country so blessed. The brilliance of the color depends more on the species of trees than on the location. Where the sugar maple abounds, there'll always be bright colors in the fall. The unusual lavenders and yellows of sweet gum and the scarlets of sourgum make the tidewater area from New Jersey to the Carolinas equally desirable to the fall foliage lover.

The scarlet oak too, is colorful wherever it grows while the maroons of the white oak may be seen throughout the south as well as the north. The canary yellow of ginkgo foliage lasts too short a time. In contrast, beech retains its nut brown leaves well into the winter.

Evergreens Drop Leaves

Whether the leaves of evergreens are broad or needlelike, they don't remain forever. Some evergreens keep their leaves two years, others, three. Some drop old leaves gradually, others, in quick succession. If inside foliage on rhododendrons, holly, arborvitae or spruce is browning don't be alarmed. It's only natural.

Tasty Dogwood Berries

Last week the dogwoods were colorfully laden with bright red berries. Today not one can be seen—except on this magazine's cover. Robins and other birds have taken every one perhaps to give them extra power for their long migratory flight.

Plant Greenhouse Annuals

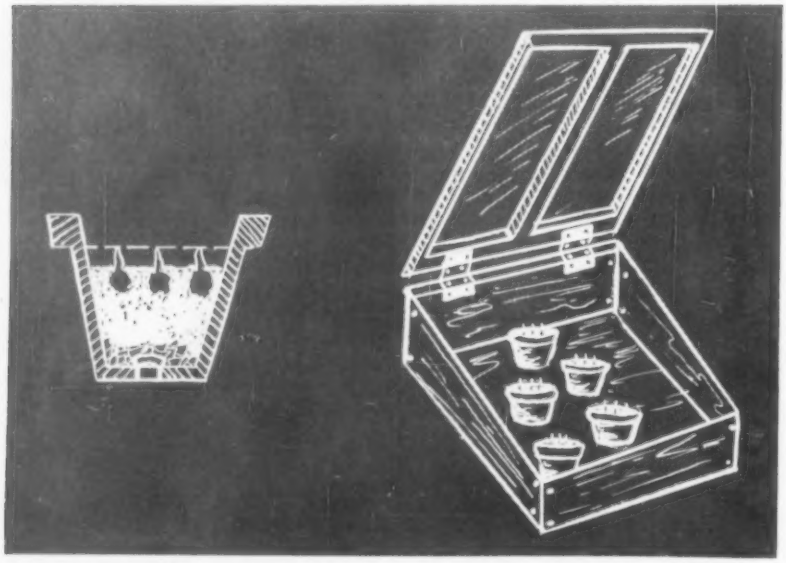
Many annuals are easy to grow even in the smallest greenhouse, and this is the month to start them for winter enjoyment. Seeds of calendulas, browallia, stock, nasturtium, cornflower and sweet peas should go in now. Others to grow are equally pleasing, such as ageratum, Chinese forget-me-not, African daisy and blue lace flower.

Fall Lawn Care

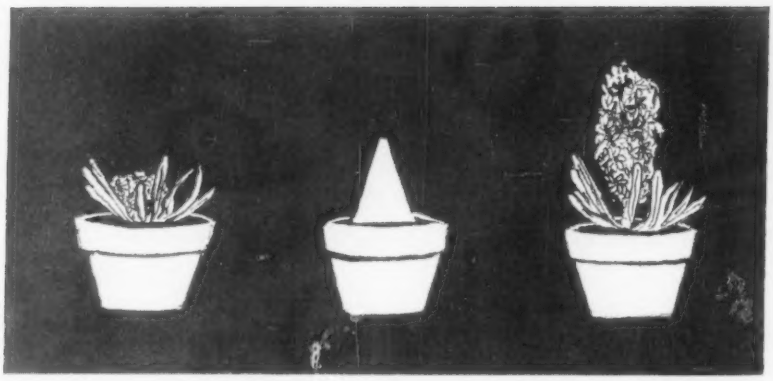
The lawn has given its best. Don't let it go into the dormant season needing a haircut. Too often we neglect to make the last cut with the result the grass is too long. When this happens the matting of the rank growth kills many of the grass plants by smothering them. Leaves also shouldn't be allowed to accumulate. When wet they make an impervious mat that does great harm. This is especially true of elm, maple, birch, ash and hickory leaves.

House Plant Care

Of course your house plants are now ensconced indoors where they're becoming accustomed to a less healthy atmosphere, plantwise speaking. Don't become impatient if they stand still for a time. Ultimately they will get new life, but they must go through sort of a



Bulbs for forcing indoors are potted up this month, using a gritty mixture well supplied with humus. Store them in a dark and cool place until roots are well developed. They can be buried in the garden or cold frame or stored in a cool dark basement. Both coolness and darkness are essential for proper preparation and finest florescence. If they are buried, be sure to water them well before covering with soil. Some bulbs such as Cragford and Grand Soleil d'Or narcissus are as easily forced in pebbles and water. Paper whites need not be kept in the dark before taking them to full light but should remain in a cool place for a short time. Crocuses are also suitable for handling in this manner, but the receptacles in which they are placed should not be deep. However, they require more exacting attention to the gradual transition from the dark, cool place to light. Give them no light until the noses are fully two inches long and even then keep them cool



Prepared hyacinths that have been made suitable for early flowering by refrigeration can be expected to bloom by Christmas provided they have been potted in mid-October. Bulb size varies. The larger ones should be planted only one to a pot; three of the smaller ones per pot is customary. After potting do nothing but keep sufficient moisture in the soil while waiting until the noses are large enough to indicate that they are ready for light and heat. Sometimes a cone of paper is placed over the developing flower bud to force taller growth. Be sure not to bring them to the light until the spikes are three inches long. The new hybrid, Borah, a cross between a Roman hyacinth and a common garden one inherits abundant bloom from the former. Each bublet produces a stalk covered with graceful bright blue flowers. A pot in which five Borah bulbs have been planted will often have 35 stems making a wealth of bloom. Expect this hybrid to bloom later

dormant period even though they don't drop their leaves. Water lightly and do no feeding until the days begin to lengthen in February.

Water Transplanted Trees

Water perennials, shrubs and trees thoroughly at planting time. And soak the ground around evergreens once a week unless rains are copious.

Fall Feeding of Trees

This is the month to start feeding trees and shrubs. Growth of top has ceased but the roots will continue activity until the ground freezes deeply. For this reason feeding at this time permits the tree or shrub to take up plant food and store it in twig and bud for growth next spring. With fall feeding there's less leaching and the response is quicker. If dry fertilizer is used, the punch bar method is best because it puts the fertilizer down near the roots where it's needed.

Buy Hybrid Lilacs

In May we go into ecstasy over the blooms of hybrid lilacs and vow we will add to our collection. If we are to follow up that vow with action, this is the month to buy and plant the new hybrids. In addition to the *Syringa vulgaris* hybrids we mustn't forget other choice species and varieties, such as the *reflexa-villosa* hybrids, Anna Amhoff, pure white and Nelli Bean, dark purple. You'll be grateful next spring for this fall's effort and far-sightedness.

Care in Transplanting

When you buy a tree or shrub, you expect the best the nurseryman can supply, which is right and proper. Equally as important is the care you give the plant after you receive it. Prepare the soil thoroughly and set the plant at proper level. Cut off broken or bruised roots cleanly just beyond the point of damage. Above all, woody plants shouldn't be allowed to dry out either before or after planting. Too often winterkilling is really the result of poor care.

Transplanting Fall Asters

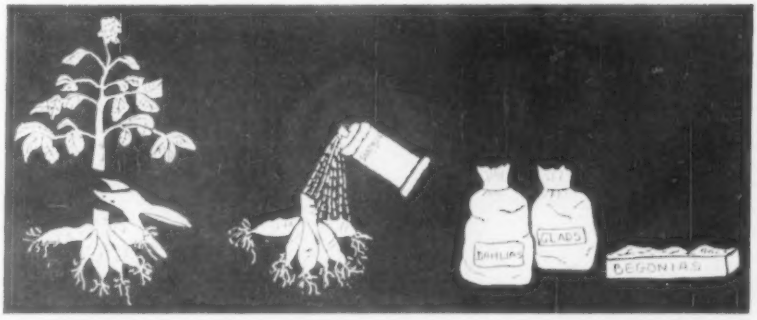
Because fall asters are vigorous they may be transplanted now if we are careful. It's simpler to do this in the fall because we now have the color scheme clearly in mind. By spring, our memory of such things may falter. Aside from the color question, dividing clumps frequently eliminates rank growth and crowding.

Bulbs for Indoor Bloom

Just to help plan for winter bulb display, four months are needed to force hyacinth bulbs into bloom in the house. Tulips, such as Bartigon, if started now, will flower in March; King Alfred daffodils, in February. Plant the bulbs in soil, bury in a cool place and bring them indoors in early January. Be sure to keep them at an even temperature after they're brought inside.

Check Azalea Mulch

Examine the mulch under rhododendrons, mountain laurel and azaleas this month. It should be loose and not more than five inches in depth. If more is piled over the roots, it may do more harm than good. If less, add more mulch. Perennials, shrubs and trees will all be helped by mulching, but in all cases a non-packing material should be used. Evergreen boughs are excellent for the perennial bed. Pine needles, ground corncobs, buckwheat hulls or bagasse, whichever is most easily available, can be used. : :



Careful bulb storage is important. Soon after the first killing frost lift dahlia roots carefully without breaking the necks. Cut off the shoots at about one inch, dry for a few hours in sun, dust with sulphur and store. Bury them in sand, vermiculite or perlite in a temperature betwen 36 and 50°. Gladiolus should be stored in much the same temperature, dusting them first with DDT to eradicate any thrips that may be present. Store tuberous begonia tubers in a cool and dark place. After frost has killed the tops lift the tubers and spread to cure for a day or two in full sun. Spread them one layer deep in a flat. With a little perlite or vermiculite covering, they will carry through in better condition. Freesias are becoming more popular for flowering in the house, yet they are best grown in a cool greenhouse. After they have finished blooming, dry them off, shake off the soil, cut the tops when yellow and store them in a cool, moist, dark place

Arrangements for fall

ELIZABETH B. MIDDLETON,
Mentor, O.

Here's a vertical line arrangement employing a modified double curve. You'll need the large seed globes of the wild Spanish onion (*Scolymus hispanicus*) and leaf sprays of glycerined leucothoe. Satiny finish of hand-painted china vase supplies right texture for Spanish onion

For modern feeling, you'll enjoy this arrangement. Use the light gold streaked with black stems of asparagus, with side branches clipped. Gather them after the first frost. Complete the picture with dried green magnolia leaves, a sunflower head minus seed, luffa gourds. Place on woven bamboo

Use glycerined wild cow parsnip (*Heracleum lanatum*) gathered when the disk-like seed-head is green. Place it in solution for 48 hours, then bleach in sunlight. Use mahogany base topped by fungi

Try a triangular composition. Use wild materials in green, purple and tan. Place dried green stalks of great mullein at the back, with purple shades of spangle and sedge grasses forward. Teasel is in the foreground. Container is a sand blasted root on a cross-cut of log

You'll find the simple, clean lines of this arrangement wear well. Use dried Egypian onion with leaf blades of purple Indian corn. Place two gray and white bracket fungi in the foreground to complete the triangular form of the arrangement

TINA LEE, Ambler, Pa.

there's no difficulty raising

the COLORFUL GOURDS

IF YOU'VE EVER walked into a garden after a light frost and come upon hundreds of brilliant ornamental gourds clinging to their browning vines, you were no doubt, in that first moment of admiration, stimulated to the point of wanting to grow gourds yourself.

There couldn't be a better time for making plans for next spring than now when the new harvest of gourds is in, fresh and appealing, waiting for you to examine them all and decide on the varities you'd like to have. Look around your garden for the perfect spot, plan your supports or trellises, order your seeds in February while stocks are complete, then sit back and dream up ways to use your abundant harvest.

We can be sure that gourds have been used since the dawn of history for specimens have been found in ancient Egyptian tombs, placed there probably as early as 2200 B.C. Primitive man used them for food, utensils and storage.

Coming a step closer to home, gourds have their uses in our own lives. The swan neck and others provide houses for wrens, martins and swallows; the dipper gourd is often seen hanging by the well; and it is quite usual to find beautifully decorated trays, boxes, toys and other charming pieces made from them when looking through our better gift and curiosity shops.

The continued popularity of garden club projects may account in part for the growing interest in ornamental gourds, rapid climbers covered in summer with a profusion of flowers and laden in fall with an abundance of fascinating and colorful fruits.

Gourds belong to the family Cucurbitaceae, of which there are many branches including squash, pumpkin, cucumber and melon. The gourds of history probably refer to the genus *Lagenaria*. These are often called hardshell because they dry quickly to a hard shell and retain their shapes indefinitely. Names such as powder horn, serpent, dipper, hercules club are given them because of the shapes they assume. The vines are long and luxuriant, producing fragrant, white, night blooming flowers.

In recent years most of the ornamental gourds have been selections of *Cucurbita pepo* variety *ovifera,* which probably originated in Texas and Mexico all of which have yellow, day blooming flowers such as seen on vines of Hubbard squash or field pumpkin. (The pumpkins and squashes, incidentally, are of the same species, but different varieties.) They are called ornamental because of their unusual colors and shapes. Among their names are nest egg, apple, orange, pear, pomegranate, turban, fingered, crown and others.

The more popular varieties of gourds are easy to raise. Grow them in a box on a New York roof garden, in a field, along a sunny fence or in a small area in your back yard. They need sunshine and warmth, and when given a trellis or other support the fruit is more perfect in shape since it escapes ground influences. The plants do best in a fertile soil, though rich soils are not absolutely necessary because manure of various types can be added.

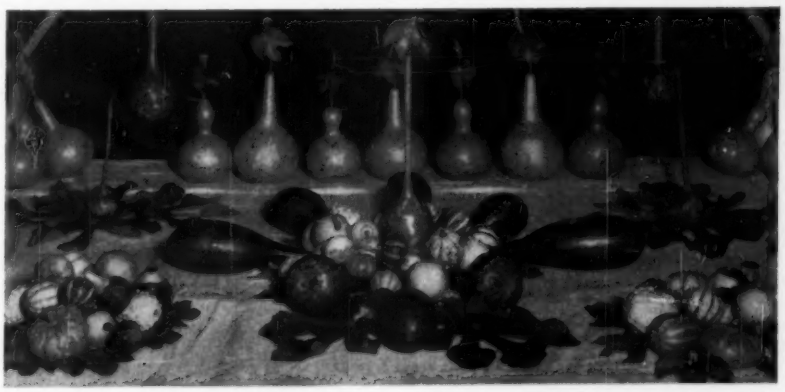
Plant out of doors as soon as all danger of frost has passed, in hills about ten inches across and four feet apart, or in-doors in boxes, three or four weeks before planting time. (This is helpful where the growing season is short.) A planting depth of three or four times the seeds width is suggested. Seeds should be kept moist until they sprout, and after that enough water should be added to keep the vines growing. Thin to four or five vigorous plants to a hill.

Gourds are subject to some kinds of insects, so it's wise to sprinkle the new plants with lime dust. If aphids attack the underside of young leaves, apply nicotine sulfate spray or dust for prompt control. You can control mildew by dusting with sulphur or Karathane.

There is a belief among gourd growers that the roots of gourds poison the soil for a second crop. This claim has not been fully substantiated, however, the rotation of gourds with other crops will hold disease and insects in check.

Plants mature in from three to five months, depending upon the variety. Delay harvesting until the stem turns brown and the leaves begin to die. Colors fade badly when mature gourds are allowed to remain too long in the sun, so cut them when they are ready. Use a sharp knife, leaving a piece of stem on each. Hang them in a shaded, cool, dry place to continue curing. This will dis-

see page 544



Gourds at Harvest and Mum Show in Boston's Horticulture Hall (this year, Oct. 15-18)

EDGAR LAMB, Sussex, England

amaze your friends with EXOTIC STAPEL

THE LOVER OF THE STRANGE and the exotic need look no farther than the stapeliads, those fantastic twig-like plants with their star-shaped flowers. Here is a group of plants both beautiful and bizarre—some of nature's wonderful curiosities.

A visitor looking at a collection of stapeliads may be suddenly aware that some of the delicate fringes on the flowers are moving. These white or purple fringes are set in motion by the slightest movement of air. A fly passing near will disturb the air sufficiently to move these spiderweb-like fringes.

Flowers of delicate pastel colorings, some very small, others exceeding 12 inches in diameter, are things of wonder to those who first see them. Plants themselves also vary in color and many are mottled in various shades of green, blue, red or purple.

The accompanying photographs will show just a few of the varied shapes, forms and markings displayed by these exotic flowers. Some have raised markings, while others are smooth. All blooms are star-like with five lobes, although, of course, a few freak flowers occur at times, some with as few as three lobes, others with as many as seven, but these are unusual.

Here in the Exotic Collection at Worthing, England, we have the largest display of stapeliads in the world—over 400 different species. The striking flowers are displayed from early spring to late autumn. There are many thousands of flowers produced each year in the collection during the season.

People seeing the blooms for the first time often remark that they are like tropical butterflies, delicate porcelain or sea anemones. These impromptu expressions do, in fact, describe many a flower with remarkable accuracy.

Most stapeliads are natives of Africa, but some are from the Canary Islands, others from India and two from the mainland of Europe. Among the most popular stapeliads with collectors are the carallumas, duvalias, huernias, echidnopsis, hoodias, piaranthus and stapelias. Here again, note that many plants are stapelias: the word stapeliad covers the general group.

Culture is not complicated in the ordinary greenhouse or window garden or out in the open, where temperatures don't often fall below freezing. Stapeliads don't like being wet too long, hence in areas with rainy seasons some form of overhead protection is necessary. A light plastic frame (without sides) arranged as a protecting roof has been found satisfactory by many a collector; others use a glass roof.

Stapeliads like a sandy soil with plenty of well rotted leafmold. Their roots need plenty of room to go down to cool, moist earth. Plant them in partial sun or lightly filtered shade.

Grown from seed, many plants will begin to flower in two or three years and as they become larger, the flowers increase in number. Cuttings of many kinds root and flower the same season. There are, of course, some difficult species which are slow growing and cannot be rooted from branches but the beginner need not worry about those just yet —there being plenty of easily grown, free-flowering species.

No matter how many kinds you have, there is nearly always something of interest to see among these plants—those producing tiny flowers make up for their smallness by having a large number of massed blooms. The species having blooms of 2-8 inches and over have fewer flowers but size and coloring make them really spectacular. It's these that draw the loudest ohs and ahs from visitors.

You may wonder if these unusual blooms only last a few hours. Species do exist with flowers which last only a few days, but many more persist for as long as three weeks. I usually regard the average varied collection as being capable of flowering in spring and continuing to late autumn. Thus during the season, with each flower remaining open on average more than one week, you will have at least a few flowers throughout the summer. ::

Huern
desia v

_IADS

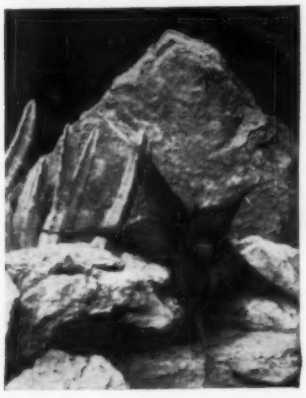
Duvalia compacta sports deep red-brown 1-1½ inch flowers

Caralluma lutea bears clusters of 2-3 inch canary yellow blossoms

Author's photos

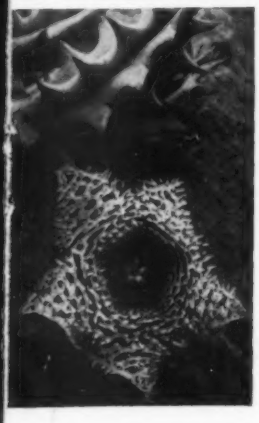
Stapelia arenosa's 1-1½ inch blooms are red-brown, with a pale yellow network

Stapelia schinzi features 7-8 inch, purple fringed, star-like blossoms

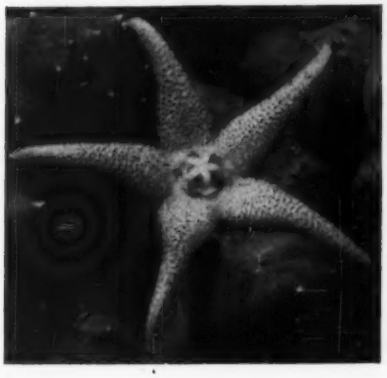


Huernia macrocarpa's bell-like bloom is purple-red (3 times actual size)

'a species from South Rho- with chocolate, cream blooms



Piaranthus pillansi fuscatus produces one-inch, pink and cream, long-pointed stars



Stapelia revoluta features fringed, red brown and soft cream, 2-2½ inch blooms

DANIEL J. FOLEY

The trumpet daffodils are best grown in soil, three to a five-inch bulb pan, as shown in top photo. Hyacinths can be grown in glasses if the base is narrow enough to hold the bulb above water. Grow paperwhites in pebbles and water in a shallow bowl or planter

here's how to pot

PAPERWHITES

Genereux

OF ALL THE FLOWERING plants which can be grown with speed and ease in any winter window garden, few can surpass the paper-white narcissus and the showy yellow form known as Grand Soleil d'Or. Both are delightfully fragrant. Start bulbs at ten-day intervals to enjoy flowers over a long period during the winter. Usually, they bloom in three to six weeks when grown in pebbles, sphagnum moss or vermiculite. I prefer pebbles because they keep the roots of the bulbs well anchored.

Five, seven or more set closely in a low bowl will produce stately stems of bloom 15 to 18 inches or more in height. If grown in a cool room, the flowers will last ten days to two weeks, especially if kept out of the direct sunlight, once the buds have opened. In a warm, dry atmosphere the foliage becomes floppy and bloom is short lived.

Some growers prefer to start their bulbs in a dark room with temperatures ranging from 40-50° F., in order to develop roots rapidly. However, this is unnecessary for these two kinds, since the bulbs can be given their start in ordinary room temperatures by keeping them away from direct light until roots have formed. Containers should be kept filled with water to a depth of one-half to two-thirds.

In addition to the paper-white and Grand Soleil d'Or, there is the Chinese sacred lily and a tazetta hybrid known as Cragford, which has delightfully fragrant flowers similar to the paper-white, only much larger with a conspicuous orange cup. Cragford is somewhat slower to develop, and requires a start in a dark place as suggested no further value. Bulbs of trumpet daffodils and of hyacinths can be planted outside after foliage has yellowed and soil is workable. ::

MARVIN HOLLEY GAGE, Rushville, N. Y.

LANDSCAPER'S MOST VERSATILE SHRUBS: THE SPINDLETREES

Bigleaf wintercreeper makes a good hillside cover

FALL IS THE TIME when many of the members of the versatile spindle tree (euonymus) tribe are at their dramatic best—with foliage in flaming reds and oranges and bittersweet-like berries the autumn garb of the more colorful.

You can find a variety to fill almost any planting need. Some are well suited for specimen planting. Others are perfect for foundations. Almost all are at home in the shrub border.

Members of this remarkable plant family are native to the Orient, Europe and America. You'll find them in all sizes from tiny creepers to fair-sized trees, and in both deciduous and evergreen types—a widely varied tribe.

The spindle tree family includes the colorful burning bushes and the evergreen bittersweets. You can enjoy more dramatic autumn color from the burning bushes than from any other shrub. If you want green foliage, the year round, you can have it by planting the evergreen bittersweets.

The smallish foliage of these shrubs is most attractive, without much gloss and decidedly neat. The general effect of the layered branches and orderly leaves, is oriental. Though they prefer a slightly moist location, they'll tolerate a lot of hot, dry weather. They seem to be virtually without insect enemies, except euonymus scale and immune to disease.

The real payoff comes in the autumn, when they assume their autumn colors: fiery reds in some kinds, scarlet and gold in others, all transluscent and glowing. The brilliance of the hues, defies descriptions. Some weeks later, after the leaves have fallen, you can enjoy the brilliant scarlet fruits, which in some species are borne abundantly. The birds like them, but they'll last until winter arrives.

The European burningbush (Euonymus europaeus) is the tallest of the deciduous sorts, sometimes achieving 20 feet. It's fine for the border or naturalizing woodland edges.

The wahoo (*E. atropurpureus*) grows to 12 feet with an abundance of red fruit in autumn. It is especially good for the shrub border.

The winged euonymus (*E. alatus*) is a gorgeous plant from the Orient, slightly less hardy than the preceding species, but well worth a trial. Its wide-spreading, regular form, makes it an ideal specimen. You'll like it in the border or along the drive too. The bursting buds are pink, while the foliage is rich, lustrous green, turning in autumn, to brilliant shades of scarlet and crimson. It reaches eight feet.

Brook euonymus (*E. americanus*) is hardier than alatus, but the foliage is less attractive. Its red fruits are larger and it also reaches eight feet.

For the edge of the woodland or a not too dry bank, running euonymus *(E. a. obovatus)* is just the plant. As its name indicates, this hardy form will run over the ground, attaining a height of scarcely one foot. Like its upright relatives, it colors beautifully in fall.

The evergreen sorts don't color in autumn, but the sparkling new shoots each spring, are attractive indeed. Their pink and orange berries resemble miniature bittersweet fruits and are good berries for arrangements. The evergreen types are mostly vine-like unless pruned. All are hardy.

Bigleaf wintercreeper (*Euonymus fortunei vegetusa)* makes a good foundation plant, if pruned. It will grow to four feet and as broad.

Sharpleaf wintercreeper (*E. fortunei carrierei*) is similar in growth, but has glossy leaves and tolerates shade.

For a touch of color, try purpleleaf wintercreeper (*E. f. coloratus*). It's similar to vegetus, except for the purplish tint of the leaves.

For a tiny kind, to plant along a wall or in front of larger growing sorts, there are two good varieties. If the location is shady, grow baby wintercreeper (*E. f. minimus*). The daintiest is Kew wintercreeper *(E. f. kewensis).*

Several new patented forms, known as the Corliss Hybrids, outstanding for their compact growth, have been developed. Some of the best of these are Emerald Cushion, a dwarf, slow-growing variety, to 18 inches.

Emerald Charm will reach 4-5 feet, and is somewhat columnar, good for accent. Emerald Pride (pat. no. 1073) will grow about four feet tall and spread out about as far.

To propagate euonymus, softwood cuttings taken in June 5-7 inches long, will root by autumn, if properly han-

see page 540

Bess L. Shippy, St. Petersburg, Fla.

PEPEROMIAS....take your pick

Peperomias are winning more friends every year. Usually varied in size and foliage, they have the endearing charm of plants that are not too large. They fit into any home even a small apartment, and are so adaptable in their growing habits that they flourish even for the beginner.

Although the number available increases each year, it is intriguing to dream about the wildlings still to be introduced. The floras of regions with tropical climates list hundreds that are still unknown to us.

First, a few words about the peperomia family tree. Peperomias are peppers or members of the pepper family. It includes many herbs, shrubs, climbers and even trees. (One of the climbers is a vine which bears our spice pepper. The vegetable-garden peppers, however, belong to another family.) Peperomias are all herbs, a name given by botanists to non-woody plants. None of them is very tall. They include both annual and perennial species and varieties, some growing by creeping rootstalks, but most being upright. None is grown for its flowers which are more curious than beautiful, consisting as they do of small white or greenish rat tail spikes. But I enjoy seeing my plant in bloom because it seems to complete the plant.

Those with creeping habit are effective as covers or cascades from hanging baskets. Certain small types are useful as fillers around the base of taller pot plants. The upright growers are striking foliage plants for pots and many are used for dish gardens. In the tropical climate where I live, several kinds ordinarily grown in pots make lush ground covers in the garden.

Because there are only small technical differences between many kinds of plants, there is often difficulty in identifying the various plants as they are brought into this country, either by design or accident (many have come in as hitch-hikers on other plants, such as orchids). Especially is this true of peperomias because one species or variety is given more than one name in the catalogs. However, by checking the printed descriptions against the illustrations in Alfred B. Graf's Exotica, you will be able to find the desired plants. Although it is no longer exciting, *P. obtusifolia* should be mentioned because it is the one which has made us peperomia-conscious in this generation. It is sold by the thousands every year for dish gardens and is popular for this because it will endure the tender, but often over-loving care of homemakers.

Peperomia rubella **is one of the small leaved peperomia rapidly gaining popularity. Plants possess more grace than the larger species**

Peperomias in general love to "change their faces" but obtusifolia sports with real abandon. Probably it has produced more new variegated kinds than any other species and more are discovered each year. Currently we have from obtusifolia: alba, a form with albino leaves at the top; Silver Edge, a compact grower; Gold Tip, as large as its parent; Royal Gold, very colorful and longenii. A green mutation named Miniature Green is a thrifty grower, desirable because it seems never to lose its lower leaves nor do they turn yellow.

P. magnoliaefolia is another large peperomia with a sculptural quality not often seen in this family. The elliptic-ovate leaves are heavy and often more than five inches long. Others in the group of larger species are *grandifolia, maculosa* and *sarcophylla.*

Among what might be called the medium-sized groups, *P. blanda* is a favorite of mine. It is trim-looking with a hint of brown in its parallel-veined leaves. *P. sandersi,* the so-called water melon begonia, is one of the best known of the peperomias, having been discovered in 1866. It has been popular since Victorian times when it was introduced.

In recent years, several species have appeared which seem to belong to the sandersi complex. These are *arifolia, arifolia littoralis* and *arifolia grandis.* Another form simply called *bicolor* has the same bands of silver, except that the central vein is broader than that of the others. *Peltifolia* is similar, although less colorful. *Pericatti* might be men-

tioned here merely because it has peltate (or shield-form) leaves. Otherwise it varies from these mentioned above because it grows from a main stem and is bright glistening green.

One of the two species recently described by the leading authority, Prof. T. G. Yunker of De Pauw University, is *caperata.* Forms of this distinctive species have been sold for some time under the names of Emerald Ripple and Little Fantasy. Both have shining green, deeply crinkled leaves with tints of chocolate, gray and brown. A new variegated form patented by the Julius Roehrs Company has been named Tricolor. Of sturdy habit, it has corrugated leaves of milky-green broadly margined cream white on red stems.

Incana is interesting because it illustrates a type of foliage not much seen in peperomias, its peltate leaves being covered with white felt. In *P. dolabriformis* we see another curious aspect of this species, Its long, thick leaves are folded together at the top and fastened to stay with a thin membrane. Certainly there is no deadly uniformity in a plant genus that can present us with such enigmas as this.

Certain forms I like simply because they always look so fresh and vital. Among these are Viridis and Astrid, both bright green and branching freely

P. blanda

from the base. *Cubensis,* perhaps better known as *rotundifolia,* may also be included in this category.

Ornata, a very handsome species from Venezuela, although known for some time, had no valid name until it was named and described by Prof. Yunker in 1954. The rich green of its leaves is highlighted by prominent veins, lighter in color, with ribs beneath of purplish red. *Pereskiaefolia* is a trim little plant with many stems arising from the base bearing whorls of four to six very narrow leaves. A similar type which I have under the name of *leptostachys* does not bear its leaves in tiers which gives it interesting lines.

AUTHOR'S PHOTOS

Peperomias vary widely even within a given species. Here are three forms of *P. obtusifolia,* left to right, Ray's hybrid, miniature green and variegata. Most peperomia survive the high temperatures and dry air of the winter indoors

Marmorata is an older species, having been brought from Brazil in 1860. A handsome burnished silver plant, it is very compact with many heart-shaped leaves rising from the base. Indented venation gives a quilted appearance. Two forms of this have recently been very popular. Silver Mound, the species described above and another smaller, darker form called Blackie.

A good many members of this species are truly scandent (climbing) and others topple over from sheer weight assuming scandency if not pinched back from time to time. Among those inherently scandent are two tiny subjects, *nummularifolia,* with a name much longer than the width of its round leaves, and *prostrata* about the same size, the main difference being in the

P. cubensis (rotundifolia)

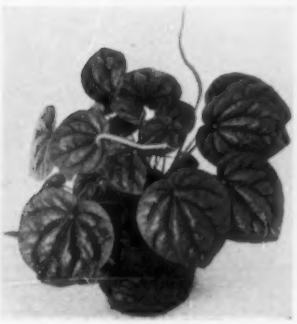
coloring. *Prostrata* has a filigree of silver which sets off the bluish green leaves. Both have thread-like stems and bear spikes of flowers so small you must look twice to see them. *Angulata* and *quadangularis* are also handsome little creepers. All are excellent for covering the sides of hanging baskets. *Scandens* is a larger species with rather stiff angular branches. There is also a variegated form of this.

In their native habitats these plants are found mostly on rotted tree trunks in shade or in the case of certain small kinds, among rocks. While most of them like moisture, sharp drainage must be provided, for a soggy condition causes damping off at the soil line. They are remarkably free from disease and pests—virtues indeed.

They are easy to propagate from leaf and stem cuttings. While recent scientific tests show that great success results from using a rooting medium composed of equal parts of German peat moss and perlite, plus a very small amount of hydrated lime, I seem to have very good results with a half and half mixture of German peat moss and coarse sand. The pH of the first mixture is 5.9.

The pots or flats containing the cuttings should be set in the shade and kept barely moist. After being potted up, they can be given a fortnightly feeding of liquid fertilizer if it appears necessary. ::

P. marmorata



the immigrant that made good

THE STORY OF BLUE

AMERICA RIGHTLY PRIDES herself that those of humble beginning may here acquire limitless success and renown. Among immigrants reaching America's shores perhaps none ever held so rich a realm in such prolific splendor, as does today a plant kingdom Horatio Alger, Kentucky bluegrass. This seldom-heralded companion of colonizers, builder of soil and of early Kentucky, has now become intimate of the suburbanite. As queen of the home lawn Kentucky bluegrass presents to those who will admire some 40 trillion * perky shoots, gracing 10 billion dollars worth of the world's most charming, expensive "cropland."

Bluegrass had a full but fragmentarily recorded history in the Old World, before encountering greater destiny in the New. The Greeks had a word for it, the Poia of Euripedes or the Pua of Eubulus, which referred generally to grasses—grasses that earlier must have held resplendent a land whose soil is now washed thin. Centuries later, in Sweden, Linneaus named the bluegrass clan Poa and Kentucky bluegrass *Poa pratensis,* meadow poa.

* 500 shoots/sq. ft. on 2 million acres of fine turf in the bluegrass zone.

Kentucky is known for horses and horsemen as well as rolling expanses of even green bluegrass

GRASS

ROBERT W. SCHERY, Marysville, O.

Harvesting Kentucky Bluegrass seed for the lawns, golf greens and pastures of the United States is a big business. Today Minnesota, South Dakota and Iowa compete with Kentucky for the largest annual yields. More of the seed comes from west than east of the Mississippi

Not yet identified with an unborn state in a new world, meadow poa had already claimed most of Europe before the Mayflower set sail for Virginia. Barlowe, reporting to Raleigh in 1584, mentions the planting of English seeds to test the soil of newly discovered land. Captain John Smith reported, "James Towne . . . most of the wood destroyed . . . all converted into pasture and garden; wherein doth grow all manner of herbs . . . we have in England . . . and as good grasse as can be". Subsequently the colonists terms a volunteer sward largely white clover and bluegrass, English grass. And William Penn tells of the intentional sowing of English grass in 1685.

In the ebb and flow of wilderness settlement, English grass stepped in wherever settler cleared forest and turned soil. Bluegrass holds green into winter, unlike most New World grasses —and it would have been no trick for either Indian or colonist to guess its Old World ancestry.

Meanwhile, north of New England, France was zealously furthering her New World interests through missionary ventures up the St. Lawrence by such as Charlevoix, La Salle and Pere Marquette. Bluegrass was accurately identified by the botanist Per Kalm in 1741, widely spread through French Canada. Likely it had naturalized in the Midwest as well. In 1818 Birkbeck, in Letters from Illinois, mentions, "Where the little caravans . . . have given their cattle hay made of the perennial grasses, there remains even after a spot of green turf . . . conclusive against the prevailing notion that the natural grasses . . . are best adapted". Perhaps bluegrass had even beaten Daniel Boone to Kentucky, where he had reported viewing "seas of grass".

Through these stirring days English grass was making a name for itself east of the mountains, too. Ben Franklin mentioned it in 1749, and Thomas Jefferson commended it as early as 1750, referring to it by the name "blue grass" in his Notes on Virginia in 1782— "Our grasses are greensward, bluegrass and crabgrass". By 1800 it was certainly dispersed in eastern America.

So excellent a general pasture grass would almost inevitably rise to even greater heights on reaching the rich phosphatic soils of north-central Kentucky. And so it was, with the Lexington area becoming the first cultural center west of the mountains, having livestock wealth and leisure enough to sport the fourth University in the nation and the first west of the mountains, Transylvania, at Lexington. Bluegrass built enduringly there, for today the Inner Bluegrass of Kentucky is still a proud center of culture as well as of thoroughbred race horses.

Although certainly possible that bluegrass reached Kentucky ahead of the settlement there are those who claim that Kentucky volunteers returning with Harrison from Tippecanoe in 1811, camped near Vincennes at the seed ripening time and stuffed their saddlebags full of plump seed for the home farms. Others believe that soldiers with Mad Anthony Wayne, returning southward during the Indian Wars, picked up bluegrass from Ohio's Pickaway Plains and brought it back.

Bluegrass at this time was not yet recognized as "Kentucky" bluegrass. No reliable botanical references so listed it. One eulogy of Kentucky's limestone region about 1840 reads "A center of prosperous agriculture. Its bluegrass pastures widely known, and its wealthy farmers". Certainly Kentucky was becoming widely known for the grass. By the time of Well's Agricultural Yearbook of 1855, bluegrass has become accepted as Kentucky bluegrass, "In Kentucky it is called Kentucky bluegrass . . . succeeds far better . . . than in any part of Europe, where it is native".

From the footholds in the Midwest, Kentucky bluegrass expansion was persistent—to Missouri and Iowa with the settlers and ever northward and westward. Today several times more bluegrass seed is harvested west of the Mississippi than east—sometimes Missouri, sometimes Iowa, South Dakota or even Minnesota vying with Kentucky for the production lead. In all these states Kentucky bluegrass still offers its bounty of hay or pasturage—but its greatest triumph, awaited, paradoxically, the automobile, and the nation's move to the suburbs and the outdoor living trend.

Worthy lawn seed mixtures, for homes north from Atlanta to Albuquerque, all have a sizeable percentage of Kentucky bluegrass. The emerald acres so much a part of modern living are its newest bounty. No other lawngrass is all in one so attractive, so tenacious, so tight a sod and so easily managed, as is bluegrass. Immigrant, agrarian mainstay, soil builder and stabilizer, Kentucky bluegrass now adds to its laurels on football fields, alongside thousands of miles of modern highway, and above-all around every man's castle, the millions of modern suburban homes. ::

PEGGY SCHULZ, Minneapolis, Minn.

winter protection and the showing made by the new varieties

CHRYSANTHEMUM REPORT

CHRYSANTHEMUMS IN GLOWING shades and fascinating shapes are at their best in fall. They make a garden a real show place and they are attractions at most fall flower shows. The mums blooming in your garden right now can be enjoyed for years and years . . . if you give them winter protection.

Chrysanthemums are hardy. Here in Minnesota where the winters get really cold, we grow many mums in our gardens. Last year we had no snow and the loss of unprotected chrysanthemums was widespread.

The chrysanthemum is a shallow rooting plant. If the ground freezes early in the season and we get a blanket of snow, the soil may stay frozen for the remainder of the winter. Should this ideal condition occur, the mums would need no further protection. What usually happens is a thaw in midwinter which heaves the ground, breaking the chrysanthemum roots. If you, too, live where similar conditions occur here are a few pointers I've used to help me keep my mums from year to year.

With us the best winter mulch is marsh hay applied *after* the soil has frozen. Growers in other sections of the country may favor straw or even field hay. I've even seen mums mulched with old chrysanthemum plants. However, this is not a good practice for it may spread disease and the dried mum plants pack tighter than other types of mulch. This condition may make mold form around the base of the plant. The majority of non-packing mulches are good. Their sole purpose during winter is to keep the ground from thawing.

Check the mulch several times during the winter to see that air is getting into the center of the plants.

I know several chrysanthemum growers who have a marvelous method of protecting prize plants. They plant the mum beds so they will be the size of standard hotbed sash. After the plants bloom the sash is placed on frames and the mums rest under glass for the winter. For further protection, pack the space between the sash with marsh hay.

As spring nears, usually mid-March in our part of the country, the hay can be removed. As the days warm the sash should be opened for ventilation.

If you have a cold frame you can save some of your choicest mum plants in it or even large plants you intend to use for cuttings. Dig them and place them in the cold frame. If the cold frame has a soil bottom, the plants can be spaced as close as four to six inches apart. Pack soil around the roots. If you are saving several varieties, set all of one kind in one section. Separate the varieties with boards—and don't forget the labels! Give them further protection by adding a packing of hay.

Some growers favor placing plants in small boxes of soil. The type of crate that fruit comes in suits them to a T. These planted boxes are dug into the cold frame. If you are storing the bulk of your plants in a cold frame it will permit you to rejuvenate the soil.

It's too late now to work for the big flowered mums but many gardeners still think you can go out and buy this type of plant. Not so. Here's how to get the big ones. As the buds form keep removing (disbudding) all but one or two of them. This gives the plant stamina enough to produce those saucer-sized football mums.

This year I tried some new varieties —Harvest Giants. The dealer who shipped them to me suggested that they would make bushier, shorter plants if they were pinched every week or two until July 20. By July 1 the plants (then in the garden about two weeks) had 6-8 shoots and were a foot high.

Some mums bloom late in the fall. It's well to know something about the care of them so their flowers open to their full beauty. If the blooms have started unfurling you can cut them and they will open in the house. If the buds are still tight then you will have to give them protection or the frost may cut them down before they bloom.

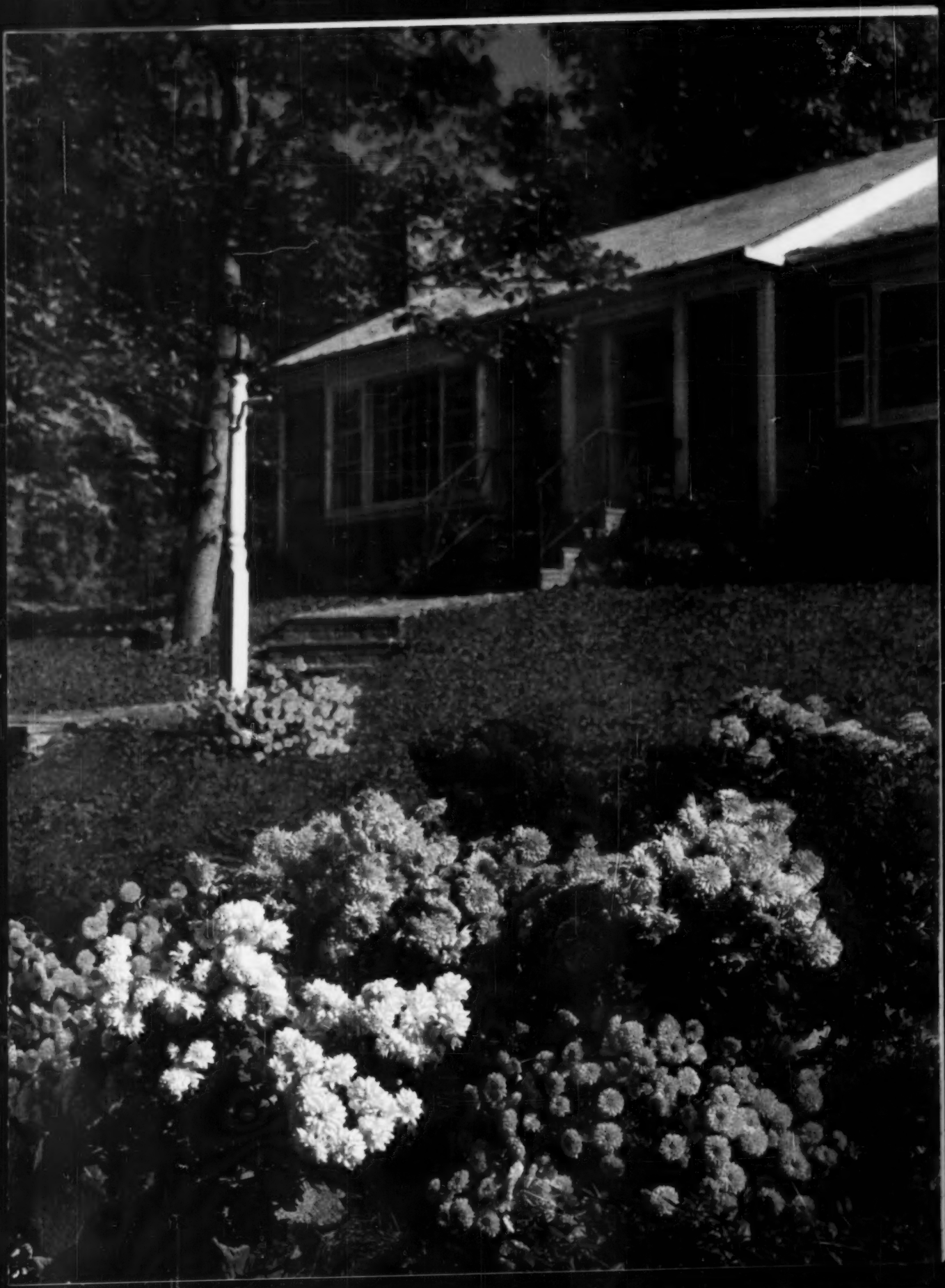
When it comes to shelters amateurs go to great lengths devising "houses" to fit their needs. One of the easiest to erect has a three-wire frame tacked to wooden posts. The center wire is higher than the side wires and all wires must be drawn tightly. Cloth or plastic is draped over the frame. The shelter is opened during the day to admit air. A friend in Philadelphia who grows prize-winning mums in a triangular patch two by ten by four feet uses this type of protection, and he has no trouble getting the late ones to open.

If you have a number of late flowering varieties you will then want a more permanent shelter. This shelter should be somewhat like a greenhouse in that

see page 542

COLOR PHOTO KEY

Chrysanthemum varieties shown in the color photo at right are: Golden Carpet, gold; Mrs. Sam Rotan, russet; Mrs. P. S. Du Pont III, peach-tinted bronze; Huntsman, red; and Avalanche, white. The varieties Mrs. Sam Rotan and Mrs. P. S. Du Pont III are side by side, with Mrs. Du Pont on the left.



BETTY JANE HAYWARD, Scarborough, Me.

interior decorating with

POTS OF BULBS

WHY NOT PROLONG the garden season by bringing plants and flowering bulbs indoors to decorate the rooms in winter? Picture windows provide ideal conditions for the purpose, giving maximum light during the short winter days and inside-outside display.

With just a little planning and forethought, long weeks of pleasure can be had from a wide variety of potted bulbs. Pot up generous numbers of varied kinds each week in September or early October, beginning with mid-December to bring pots into the light to develop and flower through all the winter months. It's rewarding indeed to enjoy the blossoms when cold and snow prevail outside and frost ferns are on the windowpane.

We assemble the bulbs in September and do the potting all at one time. Plant three large daffodil bulbs with side shoots in a large pot. Use six or more tulips to a pot and six hyacinths in a low pan. After planting, plunge the pots in a frame or trench to remain outside until mid or late November, then bring them into a cool, dark room or basement to allow the tops to grow after the roots fill the pot.

Choose a room with plenty of light and sunshine for the plant room. Its relative coolness and humidity should be controllable. Of course, the pots can be taken to any window, but there's an advantage in choosing the most favorable place for the forcing.

If the window sills are narrow, as they are in our old Cape Cod house, add a shelf the width and length of the sill, fit it with sheet lead and bend it to form a tray to hold water and pebbles on which the pots of smaller bulbs can go next the glass. The large pots filled with tall growing sorts look best when placed on benches or glass-topped tables below the window ledge. So placed the flowers are in better position to be best viewed and most fully appreciated.

There are many kinds to try; however, many bulb lists note varieties that force easily. Early flowering kinds are most reliable, and very late sorts are best not tried at all.

Among the daffodils, the tazetta group (formerly *N. poetaz*) have many that force with ease, including Cragford, white with brilliant scarlet cup, in December; Geranium, Scarlet Gem and Laurens Koster, in January.

The taller large-cupped type can be used in amount, heeding the notation, "good for forcing". Some to try are Carlton, Deanna Durbin, Flower Record, Mata Hari and Scarlet Elegance.

The Large Trumpet class is recommended. They require a little longer time to force, good forcing varieties being: Mt. Hood, Beersheba, Gloria, all white; Golden Harvest, Rembrandt, Unsurpassable, yellow; and Pres. Lebrun, bicolor. These flower in middle to late February—a period when they're needed for gayety and color.

Among the tulips, the early single and early double varieties are superior, being easily forced and having relatively shorter growth. The singles are available in a wide variety of colors and shades. We particularly like Early Double Murillo. The doubles keep longer, and unlike the single kinds do not open out flat in the sun.

Hyacinths are favorites. Good bulbs will send up additional flower stalks, prolonging the beauty and unique fragrance for which they are well known and much loved. (See page 521 for ways of lengthening hyacinth stems.)

Among the small bulbs, Dutch crocus planted thickly in a low pot will be cheerful in the winter window. The so-called winterflowering or species crocus should be even easier to force. Chionodoxa (glory of the snow) can be brought into bloom in the house. Muscari, too, are easy subjects for forcing, especially the *M. azureum* types. Keep all these for the late winter display, and don't rush them.

A pot of two of *Iris reticulata* will bring the color and scent of violets to the winter window. The species cyclamen, the small winter and spring blooming sorts, will be an added attraction in the window garden.

Pot up freesias and the St. Brigid anemones and grow them in cool temperatures before bringing them out for display. ::

COLOR PHOTO KEY

The hyacinths shown in the color photo at left are Jan Bos, deep pink, Pink Pearl, light pink, King of the Blues, blue, and L'Innocence, white. Other good hyacinth varieties for forcing in pots include Winston S. Churchill, sky-blue, Tubergen's Scarlet, deep scarlet, Scarlet Perfection, deep scarlet, Queen of the Blues, azure blue, Ostara, dark-blue, Oranje Boven, apricot-salmon, Laura, soft-lilac, Delft Blue, porcelain-blue, Lady Derby, salmon-pink, and Delight, pink.

LADYSLIPPERS

for your wildflower collection

LETITIA MORRIS, Bedford, N. Y.

OUR NATIVE SHOWY LADYSLIPPER (*Cypripedium spectabile*) sometimes called the queen (*Cypripedium reginae*) is really not difficult to grow if one supplies its few needs. It can even be forced in the house, then planted out of doors to bloom and increase.

It is time to take up its culture in earnest for it is growing scarce and may be lost to us like the passenger pigeon. It is far too beautiful and interesting a native plant to become extinct.

Ideas of conservation are changing due to changes in our times. Once it was thought good conservation to leave our native plants undisturbed where we found them. But today with bulldozers moving in to clear wild land, drain swamps, build dams for reservoirs and open up wild, wooded areas for modern housing developments, plans for conservation have changed.

Some states have laws against gathering wild plants such as the cypripediums. For that reason, even though they may in the future be bulldozed out of existence, it is first necessary to learn their legal status. The conservation list of the Garden Club Federation contains cypripediums.

As much soil as possible should be taken with the clump with additional soil in which to set this precious orchid on your own property. A semi-shaded location is necessary. While it grows in bogs still it does not like its feet in water so choose a hummock above the water table. Dryness it will not tolerate, so keep it well watered in dry weather. In the fall mulch with a non-packing material such as oak leaves.

Our showy ladyslipper, the queen or belle of the swamp, can be a conversation piece, well worth the effort of trying to raise. The beautiful pure white petals and sepals and the mocassin shaped lip flooded with rose or crimson give it a certain fascination that is all its own.

The large yellow ladyslipper (*Cypripedium calceolus pubescens*) sometimes called the downy yellow moccasin flower or whip-poor-will's shoes, is no doubt the easiest of native orchids to grow, blooming in late May and June, a little later than pink ladyslipper.

AUTHOR'S PHOTOS

Showy or pink ladyslipper (*C. acaule*)

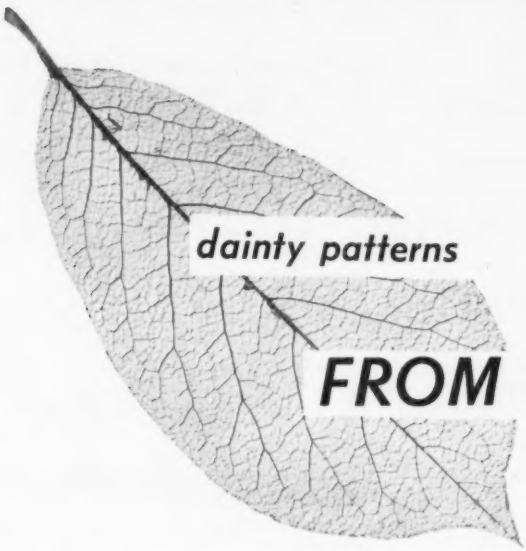
Under favorable growing conditions it can reach a height of eighteen inches with downy, alternate, broadly oval leaves. The blossom whose yellow pouch or slipper is fragrant has two, long, narrow, lateral, brownish, wavy-twisted petals for added interest. One orchid grower raises them with the showy ladyslipper giving each the same cultural care. They are good companions for violets and trilliums. All seem to flourish, apparently liking each other's company and the same environment.

The pink ladyslipper was used as medicine by the Indians. It is eight to 12 inches high, downy, one flowered, with two leaves coming directly from the surface of the soil. The rosy pink slipper, two inches long, hangs at the tip. It demands acid soil.

It is truly the most stubborn, difficult, and disappointing of the cypripediums to move, so unless you are experienced it is wise not to attempt transplanting. It has been growing in a pine and oak tree grove for the past 65 years. In its natural habitat it receives a mulch of pine needles and oak leaves which decays year after year. Here it multiplies, adding great beauty to the May and June woods. ::

Large yellow ladyslipper (*C. calceolus pubescens*)

Mrs. Robert Macarthur, Bowmansville, N. Y.



dainty patterns

FROM LEAF SKELETONS

Fragile as angel's wings, light as a feather, misty almost dreamy in appearance, skeletonized leaves may be used in many ways, in arrangements, corsages, on gift packages and in holiday decorations. Best of all make them yourself. Skeletonizing leaves is a simple process with materials available in any household. The list follows:

⅔ cup detergent with bleach
1 teaspoon sugar
1½ quarts water
medium size pan, aluminum or enamel, three quart size
paper towels

Magnolia leaves, small or medium size. Larger ones may be used if they are cooked a few minutes longer and more care is taken in the water spraying process.

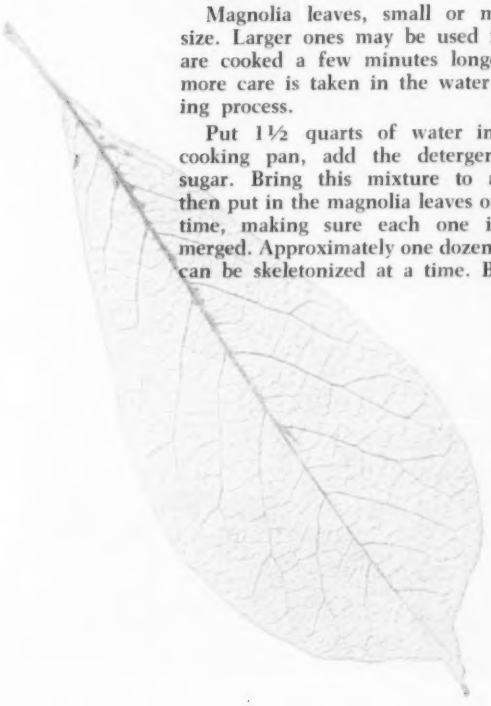
Put 1½ quarts of water into the cooking pan, add the detergent and sugar. Bring this mixture to a boil, then put in the magnolia leaves one at a time, making sure each one is submerged. Approximately one dozen leaves can be skeletonized at a time. Be sure to keep the leaves well covered with the solution by pressing them down in the pan with a wooden spoon or paddle. Do not use a sharp implement as it will damage the leaves.

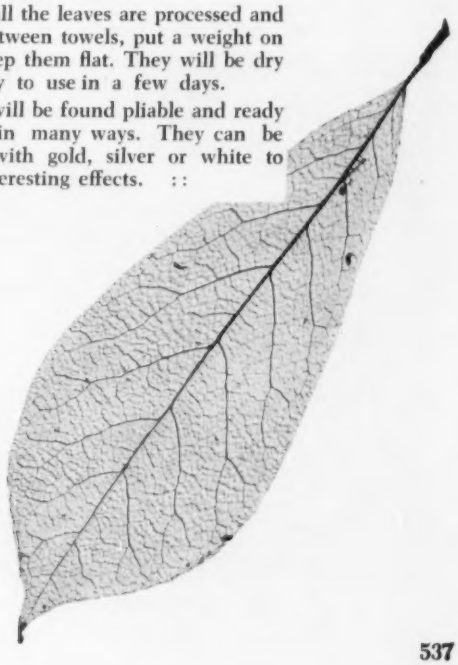
Boil for 12 minutes, or longer if they are large. Remove from the fire and let cool. Remove a leaf and place it flat on the bottom of the sink, holding it by the stem, or hold it flat in the palm of your hand with the undersurface up. Using warm water and plenty of force, spray the leaf until all the green between the veins is washed out.

If any of the green spongy layer remains, remove by gently brushing it with a fine face brush and rinsing again. After the leaf is rinsed, place it flat on a paper towel.

After all the leaves are processed and placed between towels, put a weight on top to keep them flat. They will be dry and ready to use in a few days.

They will be found pliable and ready for use in many ways. They can be sprayed with gold, silver or white to create interesting effects. ::





LUCILLE SHADE, Medina, O.

how I solved my

STRAWBERRY PROBLEMS

NOW THAT the everbearers are finishing fruiting, it's time to look over the strawberry year and draw some conclusions about the season's advantages and shortcomings. It's time, too, to plan to mulch the strawberries next month.

When we moved to our farm in northeastern Ohio 10 years ago, I had never raised a single strawberry plant. Experimenting with them since then, I have finally evolved a system with a minimum of work and a maximum of berries. Let's face it, strawberries do demand attention, but the pleasure of eating the berries fresh from the garden at little expense and the joy of watching the plants become vigorous and strong are very well worth it.

Where to plant my strawberries was a problem. If I set them out in the vegetable garden they would interfere with plowing. The only places left were weed patches around the house, one on a steep slope which washed badly, the other not far from the garden, on a slope that seemed to be only subsoil.

Still another spot was full of rocks, big and little, which had to be dug out. All of these places are now strawberry beds, producing from June until a killing frost, permitting me to freeze enough to provide berries all year round. Now that the beds are well prepared and permanent, the only expense is for a 50 pound sack of bonemeal each year.

A small bed contains early, frost-resistant Premier. A larger bed is planted with Catskill for the main crop for freezing, while another small planting has the very late Red Star. In addition, there is a sizable bed of Red Rich everbearer to provide us with strawberries in the late summer and fall.

I mulch my strawberries heavily the year round, and during the winter keep a mulch over the plants for protection. The year round mulch helps to keep weeds down and prevents erosion of the sloping beds. The material breaks down to form new top soil and keeps the berries clean. If the mulch provides a winter haven for insects, as some claim, I'm not aware of it, for I have little trouble with bugs.

Avoid over-crowding strawberries for healthy plants and high yield

The experts advise against growing strawberries in the same place year after year, since diseases may build up there, but I have used one bed for eight years and I have not found that to be the case. Perhaps this is because I add to the fertility of the soil every year so that the plants grow larger and stronger instead of becoming weaker.

Plants are set out in long rows about nine inches apart. I have three rows of berries, then a path about two feet wide and then three more rows of berries. The path facilitates working the berries and makes a neater bed. One row consists of new plants, a second row is bearing for the first time and another row is bearing for the second year.

Early in April, I remove the winter mulch and add it to the mulch between the rows, giving special attention to thin spots. When plants start to bloom, I pick off all the blossoms from the new plants. This is done about every three days, when the foliage is dry. These new plants must grow large and vigorous before they start to bear.

As soon as the strawberries have stopped bearing, I go along the row that bore for the first time this year and, with a sharp knife, cut off the old leaves, being careful not to cut into the crown of the plants. New leaves will soon appear. Any weak or diseased plants are then pulled up.

All old leaves and undesirable plants are placed in a basket to be used as a mulch in another part of the garden. Next, some well-rotted manure or rich compost is put around each plant, with care taken not to get any on the crown.

Following this, the plants that bore for the second year are pulled or dug up, using them to mulch another part of the garden. Pulling the mulch back, bonemeal is sprinkled all along the bare row, giving each plant a large handful.

see page 542

for variety

GROW GAS PLANT

MANY GARDENERS think of the gas plant (*Dictamnus albus*) as merely an oddity because of its name. Yet it really is an excellent border plant, free from insect pests and requiring no attention for many years. It grows about two and a half feet high and in May or June produces spikes of pink, purple or white flowers. Curiously the leaves of the colored varieties are dark green, where as plants bearing white flowers have light green leaves. The foliage remains attractive through the summer.

This plant has one fault—its slow growth. If plants are purchased they should be two or three years old. Although the gas plant prefers, like the peony, to be let alone, it can be transplanted in the spring as growth starts. Division of the roots is difficult but seeds sown in the cold frame or in the open ground in August will germinate the next spring. They need the action of frost for germination.

The reason for the gas plant's name comes from the fact that a lighted match held near a flower stalk on a warm evening will cause a small flash to occur. The trick cannot be repeated on the same stalk, however. The seeds that ripen are expelled from their pods with considerable force.

There is some confusion over the names of the gas plant and the colored kinds may be found listed as *D. fraxinella.* Given reasonably good soil and a sunny situation the gas plant will prove a perennial well worth growing.

GENEREUX

Gas plant make interesting border specimens

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Greenhouse Calendar

from page 514

In late June the fuchsias can be moved outside to a shady part of the garden where they will continue to bloom until frost. There are some lovely varieties: Gray Lady makes a good standard, so does Lenna and Marinka. Flying Cloud is a charming white, well named; Swing Time is a gorgeous double white and coral of exceptional size and there are many more.

Now is the time, so the books say, to house clean and close the greenhouse for the summer, but I find the space and conditions inside too valuable to waste. By shading outside with lath and inside with a passion flower vine, the stage is set for gloxinias, achimenes, caladiums, rex begonias and streptocarpus. All these plants like it warm and humid. Wet down the walks several times a day to maintain the humidity. Philodendrons, pothos, *Cissus discolor* and billbergias luxuriate here for a while and then are moved back into the planters in the house for the winter. Streptocarpus should be grown far more than it is. From rather gawky plants arise the beautiful blossoms of delightful soft colors. For fragrance a pot of nicotiana will scent the evening and seem much more intense in the still air of the greenhouse.

Try Nasturtiums

Several other plants can contribute to the picture. Nasturtiums bloom in March and April from seed sown in late September. The Golden Gleam hybrids make lovely basket plants. Grow several together for the best effect. A Christmas cactus (or two) will bloom when color is most needed and can be tucked under the bench after flowering, where it will likely set another lot of buds for a March or April display. Instead of *Campanula isophylla* try *C. portenschlagiana* usually grown in rock gardens. Pot in the fall and leave in the cold frame until after the New Year. Then when forced slowly it makes a charming trailing plant covered with intense blue flowers. Another good blue is *Plumbago capensis* which will bloom from early spring until fall, which brings us to the end of September and the start of another year.

So with just ordinary, easily grown plants the months move on bands of color to delight our eyes and various fragrances please our noses. Threaded through it all the warm smell of earth and growing plants completes the happy picture. ::

Fabled Mandrake

from page 507

With the entry of the Romans into Western European countries, fabulous reports about the root with a human shape came along with them. Because the mandrake was not indigenous to those countries, roots resembling the mythical plant's were gathered from herbs belonging to the flora of these countries, such as bryony (*Bryonia dioica*) and yellow flag (*Iris pseudacorus*).

The root which Emperor Rudolph II once bought for 100 Thaler and which is now kept in the court library at Vienna did not come from the mandrake but from *Allium scorodoprasum*, called Adam and Eva in Germany.

Carved Carrots

Carrots also served for making mandrakes. They were carved into human shapes by traders in such amulets. At the top were placed barley corns or grass seeds, and the figure was then buried in moist, sandy soil. After the seeds had sprouted sufficiently to represent hairs, the little figure was dried in clean sand. Elegantly dressed, it was sold for the highest possible price. Such images were reputed to bring wealth to the owner, as well as health, control over weather conditions, love, the blessing of parenthood, and many other kinds of fortune.

Mandrakes growing as early as 1594 in the Leyden Botanical Gardens, Holland, were raised from seeds gathered in Crete by a friend of Carolus Clusius (1526-1609, who planned and arranged the Leyden Botanical Gardens) one Joost Goedenhuyre, or Josephus de Casabond or Benincasa as he was often called in Italian. This gentleman was a Fleming by birth, and at the time was director of the botanic garden at Pisa.

Every year mandragoras can be seen growing and flowering in some places in the so-called Clusius garden, a part of the Leyden Gardens. The reconstruction of these Leyden Gardens as they appeared in Clusius time was completed in 1933. ::

Spindle Trees

from page 527

dled. Make cuts at leaf joints, with the leaves stripped from the lower two-thirds. Plant them so the lower leaves are just above ground level, and keep them watered and shaded during the hot months. You may transplant them to their permanent location in the fall or spring, or better yet, let them grow another year before moving. ::

Colorful Maples

from page 513

The most easily obtained of these Oriental maples is the Amur maple (*A. ginnala*), for it is easily propagated by seed. The fruits or keys turn red in the late summer and add quite a bit of color to the entire tree. The leaves are small, slightly lobed and turn brilliant scarlet in fall. Very seldom does this small tree grow much over 20 feet tall, and so it finds numerous uses around the home grounds, especially since it's the hardiest of the lot, growing well up into Canada in Hardiness Zone 2. It's one of the best for autumn display, and the only maple with fragrant flowers.

The Tatarian maple is somewhat similar but tends to grow with several main branches from the base, the autumn color being red and yellow. The fruits of this tree also are conspicuously red late in the summer, adding much to its ornamental value. The threeflower maple (*A. triflorum*) is another in this same group with its chief claim to fame being its flaking bark, which of course has interest the year around.

Oriental Maples

There are several Oriental maple species with small deeply lobed leaves. In fact there are over 80 varieties or clones of one species (*A. palmatum*) being grown in this country alone. The University of Washington Arboretum in Seattle has the best collection in North America. It is most difficult to make a selection among so many varieties, since only a few are completely hardy in the Arnold Arboretum.

Not all so-called "Japanese" maples appear in good condition all the time. As a rule they do best in the full sun and in sheltered situations, especially where the young growth is not susceptible to late spring frosts. Normally they are under 20 feet in height, making dense, rounded masses of foliage. It should be emphasized that the farther north the garden, the fewer varieties prove hardy, something many a northern gardener has chosen to find out for himself the hard way.

In the vicinity of Boston, one of the most hardy appears to be *A. palmatum sanguineum*, with small palmately lobed bright red leaves that retain their color throughout the summer. This tree has weathered New England winters in splendid fashion and the leaves retain their reddish color all summer. In the fall they turn a deep red, so that it always makes a colorful display from the time the leaves first appear in the spring until they drop in the fall. Our 60-year-old plant is still only about 20 feet tall, and has produced many seedlings, surprisingly similar to the parent and surprisingly hardy.

The red maple (*Acer rubrum*) is a particular favorite with those who admire fall foliage. Its colorful leaves make good arrangement subjects for Halloween or Thanksgiving tables

The very finely divided leaves of *A. palmatum dissectum* or threadleaf Japanese maple make a fine textured foliage which is desired by many a gardener. Somewhat similar is the small growing *A. japonicum aconitifolium* that is usually cultivated as a low rounded shrubby specimen and is seldom considered as a small shade tree, especially in the north. Gardeners in warmer climates have at their disposal many another variety of these typically Japanese plants, varying greatly in the lobing of the leaves, color and general habit.

Unusual Species

The last tree in the group to be mentioned is *A. tschonoski* which is usually under 20 feet high, of a graceful, almost shrubby habit, and producing brilliant yellow fall color. Although this has been growing in the Arnold Arboretum since 1892, when it was first introduced into America, it has yet to be listed in published nursery catalogues in America. The U. S. Department of Agriculture's Plant Introduction Station did a fine piece of work in recommending this tree to commercial growers a few years ago by distributing many seedlings. Before long, it should be listed by several commercial growers.

Not all these maples are sufficiently different to be planted in any one garden, but as a group they are a fine collection from which to choose small trees for the small place. ::

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Strawberry

from page 538

Well-rotted manure or compost is spread on top of the bonemeal along the row and worked gently into the soil. This done, a runner from one of the other rows is placed over the spot where the old plant was located and is secured with a couple of small stones. The mulch is pulled around the runner.

The bare spots in the row that will bear its second crop next year are filled in the same manner. Of course, these plants will not bear very much next year, but there will be a few berries.

Pick off Runners

All the other runners are picked off once a week all summer long. This is not so tedious as it sounds, and if you just let the runners grow, you soon have a hopeless mess. A patch that is not controlled will be too crowded for top production and healthy plants.

The everbearers are treated a little differently. I pull up the old plants, after a hard frost, fertilize and spade the empty row and cover with mulch until the following summer. Then, as soon as runners are available, the mulch is pulled aside, and they are placed where needed. Runners not needed are picked off.

These new plants will start to bear, but the blossoms are picked off once a week and, if time permits, I pick them off the following spring, so they will produce heavier in the fall. Should the berries be needed, let them bear in the spring for they will be husky enough.

With this program of strawberry growing, the land keeps getting richer and richer from the bonemeal, decaying mulch, manure and compost. Regular fertilizer could be substituted. However, organic matter keeps the soil loose and has given me good results from my strawberry beds.

Humus must be constantly replaced in such a system. I use bonemeal because it feeds the plant phosphorus slowly over a three-year period instead of giving them a large dose all at once. It may be a little work to gather mulching material, but it is certainly worth the effort. Straw, spoiled hay, sawdust or leaves are all suitable mulches. In fact, any material which will rot down and enrich the soil is eligible.

Under this sytem, once the original plants are purchased, no more need be bought unless you want to try a new variety. No longer do you get a large package of strawberry plants during a blizzard or when the ground is too wet to dry out enough for planting. Also, plants that do not have to be transplanted will grow and produce better.

In a bed of this type the possibility of disease build-up is present. To keep disease in my strawberry beds at a minimum, I stress three things. First, I keep the humus content of the soil as high as possible to make the plants more vigorous and disease resistant. Second, I try to keep out of the beds when the foliage is wet. Third, I remove all old leaves, plants and spoiled berries. ::

Chrysanthemums

from page 532

the roof and the sides are made of hotbed sash or larger wooden frames covered with plastic or perhaps Fiberglas. You can make the width to suit your needs but a 10-12-foot one is considered ideal. During the summer the top and side sash should be removed to admit fresh air.

The foundation should be poured concrete, concrete or cinder blocks. The folks at your lumber yard and a cement man will furnish you with data for making such a shelter.

Line Arrangements

Since the art of Japanese flower arranging has become so popular, I think everyone who gardens and who also arranges flowers will want to add a few mums to his garden, for no flowers are better adapted to this specialized type of floral arrangements.

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581

Colorful Gourds

from page 526

courage the development of fungi. Avoid scratching or marring the fruit at this point, because these blemishes can't be removed. This is the time, however, to mark special gourds with children's names or initials and to scratch decorative designs on their surfaces. When the gourd is completely cured these markings will stand out distinctly.

There are many ways to decorate gourds. Carving, painting or a combination of both are among the favorites. However, unless your talents lie in these directions it would seem best to leave the painting and carving to others who can do it in good taste. A coat of shellac or paste wax, polished to a high gloss, intensifies the gourd's color and markings and prolongs its life. Be sure the gourd is clean and dry before giving it either of these treatments, and remember that very smooth specimens may need a light rubbing with fine sandpaper before the shellac adheres.

Gourds are handsome additions to decoration whether your house is modern or traditional. Fill a white or pewter bowl, beautiful of line, with highly polished gourds or combine them with fruits, flowers or dry arrangements. Work them alone or together with Indian and Mexican corn, dried pods and pine cones into long charm strings. Use these beside your front door, mantle, in a guest room or as a gift. Small gourds make unusual place cards for Thanksgiving dinner. Names are added easily with colored nail polish used on a small brush. String a few together to use as tie-backs for curtains and drapes.

At Christmas time use them for tree ornaments, add them to evergreen wreaths, swags or any greens you may use for decorating the house. Attach them to gift packages, use a real beauty as a paper weight. For a bit of whimsey, rescue an abandoned bird's nest, drop your tiniest gourds in it, perch a wooden bird on the edge and wait for the comments. ::

Winter Preparation

from page 506

wheat hulls, corn cobs or leaves will give safe insulation. Deep dry snow is one of the best soil insulators, so perhaps a snowfence or planting can be planned to build deep, stable garden drifts.

Simple cultural practices in late summer will send most plants into the winter in their strongest, toughest health. Withholding nitrogenous fertilizers after July helps new wood harden and ripen, free of succulent tips. When the autumn months are warm, keep artificial watering to a minimum to prevent late, soft growth.

After a dry autumn deeply soak the soil in the last weeks before the ground freezes tight. Normal control of summer insects and diseases will produce healthier plants that will be hardier plants. This is especially true of roses, butterflybush, peaches and other plants that like to grow right up to the freeze.

Gardeners expect some winter damage occasionally, but it will be kept to a tolerable minimum with these few items of pre-winter care. (*A second article, taking up other aspects of winter protection will appear in the November issue.*) ::

Clippings from CLUBS and SOCIETIES

Holly Society of America

Prof. Robert Clark, Rutgers University, Chairman of the Holly Society's Arboretum committee, announces that the old holly plantings in the gardens of the world famous Biltmore Estate, Asheville, N. C., have been designated as an official holly arboretum.

Huge old specimens of holly abound on the winding roadside plantings and on the gardens of the estate and have reached unusual size.

These old hollies have now been joined by thousands of small species and varieties from all over the world. This is part of a 20-year program to build an unrivalled collection of American, Chinese and Japanese hollies at Biltmore.

Flower Arranging Course

The Boston Y. W. C. A. at 140 Clarendon St. will sponsor a Flower Arranging course this fall, to be given on five consecutive Wednesday nights from 7-9 P.M., beginning September 30.

Mr. William Quint of Quint Florist will give the lecture-demonstrations. He will stress arrangements especially suited to small homes and apartments and as a special feature will work out a variety of holiday arrangements. Fee for the series is $10.00. To register write the Y. W. C. A., 140 Clarendon Street, Boston 16, Mass.

Yellow Epiphyllums

The Epiphyllum Society of America reports in a recent bulletin that several yellow epiphyllums have been developed by Paul L. Fort and W. Garland O'Barr. A few have been named and probably will be available next year.

Memorial Scholarship

The Purdue Alumni Scholarship Foundation trustees of the C. L. Burkholder Memorial Scholarship Trust Fund have announced that the earnings will be sufficient to award a scholarship for this year.

This method of perpetuating Prof. Burkholder's interest in helping students gain an education is fitting. The scholarship was made possible by the generosity of Prof. Burkholder's many friends and the Indiana Horticultural Society and will benefit the entire fruit industry.

RONALD J. DONOVAN PHOTO

Children's Garden Show, sponsored by the Massachusetts Horticultural Society, is an unusual Boston annual late summer event. The show includes both Boston school gardens and 4-H exhibits. Blue ribbon winners, left to right, are Jay Walsh, carrots, Helen Howell, dwarf sunflower, Paul Beede, zinnias, Alice Petrone, zinnias, John Hartigan, tomatoes, and Owen Norton, petunias, aged 9-12. Exhibits ran from flower arrangement to vegetables

Horticultural Congress

Among the speakers at the 14th American Horticultural Congress to be conducted at Hotel Sheraton, Rochester, N. Y., Oct. 7-10, will be Andre De Vilmorin, vice-president of the French Horticultural Society. Other speakers will include Wilbur Wright, director of parks, Rochester, and George Spalding, of the Los Angeles State and County Arboretum. Field trips to nearby nurseries, the Agricultural Experiment Station at Geneva and the famous Rochester parks will be arranged. A meeting of the Garden Writers Association of America will be conducted in connection with the Congress.

Hawaiian Orchid Show

The Second Annual Hawaiian Orchid Conference and Show, scheduled for Oct. 23-25, will be a part of Aloha Week. The Rev. Masao Yamada, president of the Hawaiian Orchid Societies, will preside. A highlight will be a report on orchid research at the University of Hawaii in the fields of cytology and pathology. Inquiries should be addressed to Mr. Masatoshi Miyamoto, Show Chairman, 617 Libby St., Honolulu, Hawaii.

Lily Awards

At the annual International Lily Show of the North American Lily Society given at Longwood Gardens, several awards were presented. William S. Dean, East Homer, N. Y., won four—the Isabella Preston Trophy for the best entry in the show, a Martagan-Hansoni hybrid, the Griffiths Award for best unnamed hybrid seedling, the Pennsylvania Horticultural Society Trophy for *L. canadense rubrum* and the Chairman-of-the-Award. George L. Slate received the Massachusetts Horticultural Society award for Brocade; Mrs. Arthur A. Dugdale, the Longwood Trophy for Golden Wedding; Eric Mayell, the M. E. Pierce Trophy for three special lilies and the Men's Garden Club of Roanoke, Va., for Black Dragon.

Orchardist Retires

Clemson College will miss B. M. Mayson, popular supervisor of the orchards for the last 15 years. Since 1926 he has been responsible for the successful peach orchard of 4000 trees. Both Mr. Mayson and his wife were honored upon his retirement at the horticulture department picnic, drawing praise from Dr. Garrison, director of the experiment station, and Prof. Musser, retired head of Clemson's horticultural department, for his diligent and continuous service.

Dutch Gladiolus

The Netherlands Gladiolus Society dispatched Dick Schuyt to arrange displays of Dutch gladiolus at the Eastern International Gladiolus Show presented recently at the Concourse, Roosevelt Field, Long Island, N. Y. He was assisted by the students from the N. Y. State Agriculture College, Farmingdale, N. Y. More than 3000 spikes of 35 varieties were on display during the event.

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Schedules for "WINTER GREEN," our annual Christmas Greens Exhibition, December 8–13 at the Detroit Historical Museum, will be mailed on request.

Mid-October Chrysanthemum Bus Tour to Kingswood, Mansfield, Ohio.

"ARRANGING FLOWERS FOR FUN," by Hazel Peckinpaugh Dunlop, is being added to the Esther Longyear Murphy Memorial Book Shelf by Mrs. Murphy's sister, Mrs. Longyear Palmer.

Remember your friends at Christmas with a gift membership accompanied by a suitable greeting card.

Green Thumb Diplomat

James M. Macfarland a green thumb American diplomat was present at the International Conference of Amateur Gardeners, in Dortmund, Germany, in early September. With him he carried three prize squash grown on President Eisenhower's farm for exhibition. Squash is the favorite vegetable of Macfarland and with the cooperation of David Burpee of Pennsylvania, he secured the donation of 10,000 packets of squash seeds for the German people.

Iris Award

The McKee Medal was awarded to Monee, an iris originated by Jack Goett of Conn., at a recent meeting of the American Iris Society. Monee is a medium blue with a lavender cast, a self of lovely form and heavy substance.

Flower Show School

Course I of the Fourth Flower Show School of the Federated Garden Clubs of Connecticut will be conducted at the Waverly Inn, Cheshire, Conn., Oct. 13-15. Primarily for members of the federation, non-members may attend. For information, write Mrs. E. Van Dyke Wetmore, chairman, Essex, Conn. Mrs. William Green, Box W, Newtown, Conn., is handling reservations.

Floriculture Awards

Recently, the U. S. Department of Agriculture presented Superior Service Awards in Floriculture to three outstanding scientists who have been engaged in research work. Dr. Samuel L. Emsweller, Oakley M. Frost, and Dr. Neil W. Stuart. They were among 144 USDA employees honored by the Secretary of Agriculture.

The Pennsylvania Horticultural Society

389 Suburban Station Building, Philadelphia 3, Pa.

MR. GEORGE R. CLARK, *President*
MRS. E. PAGE ALLINSON, *Secretary* DR. J. FRANKLIN STYER, *Treasurer*

Propagation

An exhibit by the Horticultural Department of Ambler Junior College in the rooms of the Society 9 A.M.-5 P.M., October 19-23.

Chrysanthemum Show

Field House, Swarthmore College, Swarthmore, Pa., Nov. 6-8, 1959. A reminder to members. Please exhibit. The schedule lists a variety of classes including chrysanthemums, trees, shrubs, vegetables, arrangements. Special classes for amateurs besides professionals. Call the office for any information. Miss Klockner will help you. This is an outstanding fall show.

Philadelphia Flower Show

Ernesta Ballard (Mrs. Frederic L. Ballard), one of Philadelphia's distinguished horticulturists, is chairman of the committee staging the horticultural classes for amateur growers at the 1960 Philadelphia Flower Show.

These classes were planned in the early spring and schedules sent to garden club presidents. Some clubs use the classes as a horticultural project, urging their members to make as many entries as possible and giving credit in club competitions for entries and awards.

There is a wide variety of classes: various kinds of flowering bulbs, African violets, rooted cuttings, bonsai and others. Cultural information is required for all entries—a feature which was of great interest to visitors at the show last year.

Schedules will be sent to all members of the Society in the fall. The committee hopes that the increasing interest among amateurs in good gardening techniques will result in many entries of high quality.

Exhibition Cases

The Library and Exhibition Committee have acquired three fine exhibition cases and are most anxious to have members of the Society display any material or collections which would be of horticultural interest. Please contact the office and they will be glad to help you with your exhibit.

Pennsylvania Gardens

Strawberry Mansion, October 14-15. The president of the Society, Mr. George R. Clark, will speak on "A Challenge to Present Day Gardeners". For further information call Mrs. James R. Miller, Gwynedd Valley, Pa. Phone MItchell 6-0529.

Window Boxes

This enterprise was put in effect seven years ago under the able leadership of Mrs. James Bush-Brown with the help of the garden clubs and other interested citizens. It has grown in leaps and bounds and has proved one of the best, if not the best, activity to help improve street blocks throughout the city. After several years the blocks continue on their own. They have ordered $2,500 worth of seeds and plants, and in the fall prizes are given for the best blocks. It has inspired people to paint their houses, repair them and keep the trash off the street. The 1959 season closes with great success and in 1960 we are looking forward to even greater success.

American Rose Wins in France

The most beautiful rose of the year is the new American hybrid tea rose Garden Party, according to judges at the International Concourse of Roses at Bagatelle Gardens in France. This Gold Medal Award follows within a few days the news that it also received America's highest honor, the All-America Award for 1960.

Garden Party is a cross between two famous roses, Charlotte Armstrong and Peace. Blooms are extremely large, in a near white blend of soft pastels, with the ivory throat maturing to creamy tones, with the tips of the petals flushing to pink.

Wild Flower Preserve Anniversary

On the occasion of the 25th anniversary of the founding of Bowman's Hill Wild Flower Preserve in Washington Crossing State Park, Pennsylvania, a summation of accomplishment may well be in order.

Within the preserve's 100 acres, there have been developed 14 trails, varying in length from 250 to 1100 feet, two sphagnum bogs, several acid and sandstone habitats, a pond, a roadside of flowering trees, and 15 acres of tribute trees.

The preservation and propagation of as many of Pennsylvania's varied flora as possible have been the foremost considerations in this development. The catalogue numbers more than 1200 species of native plants, including all of the ferns native to the state. Consequently, Bowman's Hill has become a veritable outdoor botanical classroom.

Sponsors and friends will celebrate the Silver Anniversay at a reception in the the Park Memorial Building, Oct. 28, followed by a luncheon with Dr. Henry T. Skinner, director of the National Arboretum, as the guest speaker.

Chrysanthemum Show

As in the past, the 1959 Chrysanthemum Show, sponsored by the Pennsylvania Horticultural Society, will be given at the Swarthmore College Field House, Swarthmore, Pa. Scheduled for November 6-8, the Arthur Hoyt Scott Foundation and the Philadelphia Branch of the National Association of Gardeners are cooperating in its staging.

Amateur growers are, once again, encouraged to exhibit. For additional information, write Mrs. George C. Makin, 3rd, 320 Harding Ave., Milmont Park, Pa.

Present Daffodil Award

The Board of Directors of the American Daffodil Society with Mrs. Leon Killigrew, chairman of the committee on awards, voted to present the international gold medal award to Dr. Egbert van Slogteren for his virus disease studies at Wageninger University, Lisse, Holland. Dr. van Slogteren pioneered the steam sterilization of bulbs making Dutch bulbs safe for importation into this country.

Boston Fall Show

The 130th Harvest and Chrysanthemum Show of the Massachusetts Horticultural Society, featuring frults, vegetables, chrysanthemums, African violets and house plants, will be held Oct. 15-18 in Horticultural Hall, Boston.

As in the past, Arno H. Nehrling, director of exhibits, expects a fine display of fruits, especially apples and grapes.

Harold D. Stevenson, chairman of the committee on exhibitions reports that all entries must be filed at Horticultural Hall on or before Oct. 8, and exhibitors must be members of the Horticultural Society. A copy of the rule book will be sent upon request to prospective exhibitors.

Recently introduced plants or flowers not found in the schedule will nevertheless be judged for the Society's certificates, according to Milford Lawrence, chairman of the committee on prizes. For additional information write Arno H. Nehrling, 300 Mass. Ave., Boston 15.

Honor Ambrose Brownell

Ambrose Brownell, Milwaukie, Ore., has been appointed to the council of the U. S. National Arboretum by Ezra Benson, Secretary of Agriculture.

The 15-member committee meets twice a year to make recommendations for the cultivation and study of plants in the 400 acre Arboretum located about two miles from Washington. Brownell, owner of Brownell Holly Farms, was selected because of his experience as a grower of hollies in their many varieties.

'Mums East and West

The 28th annual Chrysanthemum Show will be staged jointly by the Seattle Chrysanthemum Society and the Evergreen Chrysanthemum Association, Oct. 27-29 at Norway Center, Seattle, Washington. The use of the flower in Japanese as well as contemporary flower arrangements will help depict the theme of the Show, Chrysanthemums East and West.

Royalty Present

Planting of Sterling Forest Gardens, Tuxedo Park, N. Y., the nation's newest floral showplace was formally inaugurated Thursday, Sept. 17, by Her Royal Highness, Princess Beatrix of The Netherlands. The Gardens covering 125 acres of rugged hills, meadows and woodland is 35 miles from New York, will be open to the public in the spring, offering a succession of bloom running throughout the summer and fall, from crocus to asters.

Wild Flower Meet

Mrs. Lucien B. Taylor president of N. E. Wild Flower Society, will give a lecture, Adventures in British Horticulture, at 2 pm on Wednesday, Oct. 28 in Horticultural Hall, Boston. Sponsored by the Wild Flower Preservation Society and the Massachusetts Garden Club Federation, the meeting is open to their members and the Mass. Horticultural Society.

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HEAD-GARDENER for bachelor's Westchester estate. Two bedroom cottage supplied. One full-time assistant. Must be able to run small greenhouse and small vegetable and flower garden, prune and care for trees and shrubs, and perform general estate maintenance, including minor repairs to equipment and buildings. Ability to learn more important than lengthy experience. Salary with regular annual increments. Furnish resume to ROCKLEDGE, 350 Whippoorwill Road, Chappaqua, New York.

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ESTATE GARDENER, SPECIALIST in Greenhouse Work. 30 years experience. Married, two children. Age 45. Reply to Box 174, HORTICULTURE, 300 Mass. Ave., Boston 15, Mass.

U.S. Plans Its First International Garden Show Exhibit

More than a dozen countries—including, for the first time, the United States—will participate in a world fair of gardening March 25-Sept. 25, 1960, in Rotterdam, the Netherlands.

"Essentially these shows are becoming accepted as techniques to advance understanding toward peace," said Joe Lane, chairman of the Special American Contributions Committee of the American Horticultural Council.

"It is contended that since gardening is a universal expression of cultivated taste, that the American exhibits will be a reflection to the people of Europe of what gardening means to Americans." Mr. Lane added that the U. S. exhibits will be varied.

The Floriade (or olympics of horticulture) will occupy more than 125 acres in the city's center. The city of Rotterdam, in addition to setting aside the park area, has spent more than $2 million in preparation for the event.

In addition to the national exhibits, the Gardens of Nations, there will also be sections organized on a horticultural basis—such as the divisions of roses, fruits, perennials and annuals.

Horticulture in its broadest sense will be covered, with the theme being "from seed to force" and the newest in everything from tulip varieties to vegetable freezing equipment on display.

Participants are expected to include the United States, the United Kingdom, Belgium, the Netherlands, Luxembourg, Germany, Denmark, Sweden, France, Switzerland, Italy, Hungary, Spain and Israel.

Masses of tulips will be featured during the first six weeks of the Floriade, with other plant and flowers, in their seasons, taking over the spotlight according to plan.

Michigan Fetes Autumn

Artistic arrangements and horticulture were the major divisions of the Harvest Festival presented Sept. 15-17 in the art galleries of the Old City Hall in Detroit, Mich.

Sponsorship of the event was by the Michigan Horticulture Society, with the cooperation of the Central Business District Association.

Arrangement sections were given titles such as Autumn Haze, the Savory Season. In addition, to the usual exhibits junior and men-only sections were featured.

Horticulture sections included: chrysanthemums, dahlias, gladiolus, roses, perennials, annuals, fruits, and vegetables.

Slate Garden Tour

Members of the Horticultural Society of New York will visit six private gardens in Greenwich, Conn., and the Japanese festival of Kiku Oct. 7.

The arrangements have been made together with the Greenwich Garden Club, the Greenfingers Garden Club and Hortulus. Information on fees and transportation can be obtained from the society, Essex House, 157 W. 58 St., New York 19, N.Y.

Gardens featured will be those of Mrs. Reynolds Bagley, Mr. and Mrs. J. Burr Bartram, Mr. and Mrs. Luke B. Lockwood, Miss Mary Esther Rowland, Mr. and Mrs. Nathan Allen and Mr. and Mrs. Phil W. Bunnell.

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CHINA ASTERS GET BETTER

THE CHINA ASTER is one of a small handful of annuals, including annual larkspur, calendula, stock and sweet pea, which has been developed to its present degree of perfection primarily because of its value as a commercial cut flower of the florist.

Tracing the origin of the annual China aster to a lone oriental species, *Callistephus chinensis,* is purely academic in this day and age. Of greatest importance to us now is that over the last quarter century or so, American breeders have perfected types which are suited to climatic conditions in this country, and also have bred wilt-resistant varieties which are relatively easy to grow and healthy of flower and leaf.

With the flowering season drawing to a close, take stock of this year's successes and failures and plan to do more with asters another year. For here is one annual that possesses exceptional versatility and variety.

Seedsmen have bred China asters to meet almost every need. One can have bloom from early summer to frost by growing varieties which naturally flower at different times. The earliest include such varieties as Curlilocks and Burpeeana which are then followed by Queen of the Market, Giant Branching, California Giant, Crego and American Beauty forms and varieties.

Plant habit varies from one class to another. Some kinds make compact, closely branched plants, such as Powderpuffs. These varieties must be planted closer than the tall, long-branching kinds to make a colorful bed.

All asters branch naturally, and thus tip pinching is unnecessary. There are times, however, when one may want to remove side buds along the stem to get the finest individual flowers possible. On the other hand, by leaving all the buds, the flowering period in a border may be extended since side buds usually open after the other flowers have passed.

The names of asters give a hint to the character of the individual flower, such as ostrich feather, an altogether lovely blossom with long slender petals, intricately curled and twisted. Other types have this general appearance too. The pompon is at the other extreme—a compact button-like flower composed almost entirely of short quilled petals. Between the two are intermediate forms. Least formal of all are the Sunshine asters which have an outer row of long gracefully curled petals in typical aster tints contrasting with a center of yellow quilled florets.

Clear, crisp, colors include the popular tones of scarlet, crimson, rose, pink and white. The varying lavenders and the clear blue, almost entirely lacking in other summer cut flowers, have, perhaps, the strongest appeal.

Books that grimly list all the pests of ornamental plants present such an overpowering array of beetles and blights known to feast on asters that succeeding with this flower would appear to be next to impossible. On the other hand, the unwary gardener might assume that through the magic of wilt-resistant strains, all aster troubles have now vanished. Don't be afraid to try any and all China asters, but at the same time be aware that they do need regular attention and care.

Like other shallow-rooted flowers, asters bloom best when growth is never checked at any time by root disturbance, dryness, or pest injury. Seedlings started early indoors or in frames are transplanted into pressed peat or fiber pots, which are set out with the seedling at transplanting time. Regular watering and feeding throughout spring and summer will produce healthy, vigorous growth.

All the other ills of asters can be controlled in a measure by regularly spraying the plants, beginning early and continuing until the buds start to open, with an all-purpose garden spray.

One virus, the yellows, which turns leaves, buds and flowers a sickly yellow color, may show up on occasional plants early in the season. Sick or wilted plants never get well. At the first sign of trouble of any sort, an aster plant should be pulled and burned to prevent insects from spreading the disease to other plants. Because aster diseases may be hard to diagnose, it is wise, at clean-up time in the fall, never to put aster plants on the compost pile but to destroy them. That's good gardening.

Some aster ills, like yellows, remain dormant in the soil, and will reinfect new plants next year, so following a rotation plan is highly advisable. Thus, in fall, mark areas in borders where asters have been this year with a prominent label. Also mark rows in the cutting garden. Next year, locate China asters as far as possible from these locations. ::

COLOR PHOTO KEY

Curlilocks, American Beauty and other varieties of China asters indicate the progress that has been made in producing healthier and more interesting forms of this long-popular annual. Petal form, growth habit, height, range of color, numbers of petals all vary from variety to variety. As the photo indicates, China asters are valuable both as cut flowers and as part of landscaping and garden design.